REPUBLIC OF BOTSWANA

COUNTRY PROFILE

**IMPLEMENTATION OF AGENDA 21:
REVIEW OF PROGRESS MADE SINCE THE
UNITED NATIONS CONFERENCE ON
ENVIRONMENT AND DEVELOPMENT, 1992**

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REPUBLIC OF BOTSWANA

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All statistics are rendered as provided by the respective Governments.

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ACRONYMS

APELL	Awareness and Preparedness for Emergencies at Local Level
CFC	chlorofluorocarbon
CGIAR	Consultative Group on International Agriculture Research
CILSS	Permanent Inter-State Committee on Drought Control in the Sahel
EEZ	exclusive economic zone
ECA	Economic Commission for Africa
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ELCI	Environmental Liaison Centre International
EMINWA	environmentally sound management of inland water
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
FAO	Food and Agriculture Organization of the United Nations
GATT	General Agreement on Tariffs and Trade
GAW	Global Atmosphere Watch (WMO)
GEF	Global Environment Facility
GEMS	Global Environmental Monitoring System (UNEP)
GEMS/WATER	Global Water Quality Monitoring Programme
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Pollution
GIPME	Global Investigation of Pollution in Marine Environment (UNESCO)
GIS	Geographical Information System
GLOBE	Global Legislators Organisation for a Balanced Environment
GOS	Global Observing System (WMO/WWW)
GRID	Global Resource Information Database
GSP	generalized system of preferences
HIV	human immunodeficiency virus
IAEA	International Atomic Energy Agency
IAP-WASAD	International Action Programme on Water and Sustainable Agricultural Development
IARC	International Agency for Research on Cancer
IBSRAM	International Board of Soil Resources and Management
ICCA	International Council of Chemical Associations
ICES	International Council for the Exploration of the Sea
ICPIC	International Cleaner Production Information Clearing House
ICSC	International Civil Service Commission
ICSU	International Council of Scientific Unions
IEEA	Integrated environmental and economic accounting
IFAD	International Fund for Agricultural Development
IGADD	Intergovernmental Authority for Drought and Development
IGBP	International Geosphere-Biosphere Programme (ICSU)
IGBP/START	International Geosphere-Biosphere Programme/Global Change System for Analysis, Research and Training
ILO	International Labour Organisation
IMF	International Monetary Fund
IMO	International Maritime Organization
INFOTERRA	International Environment Information system (UNEP)
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IPCS	International Programme on Chemical Safety
IPM	integrated pest management
IRPTC	International Register of Potentially Toxic Chemicals
ITC	International Tin Council
ITTO	International Tropical Timber Organization

ACRONYMS (Cont'd)

IUCN	International Union for Conservation of Nature and Natural Resources
MARPOL	International Convention for the Prevention of Pollution from Ships
OECD	Organisation for Economic Cooperation and Development
PGRFA	plant genetic resources for agriculture
PIC	prior informed consent procedure
SADCC	South African Development Co-ordination Conference
SARD	sustainable agriculture and rural development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRO	Office of the United Nations Disaster Relief Coordinator
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNU	United Nations University
WCP	World Climate Programme (WMO/UNEP/ICSU/UNESCO)
WFC	World Food Council
WHO	World Health Organization
WMO	World Meteorological Organization
WWF	World Wide Fund for Nature (also called World Wildlife Fund)
WWW	World Weather Watch (WMO)

OVERVIEW

The Botswana government recognizes and reaffirms Agenda 21 which aims at addressing the pressing needs of today while preparing the world for the challenges of the next century. This recognition is premised on and reflects a global consensus and political commitments at the highest levels, on development and environmental cooperation. National strategies, plans, policies and processes are crucial in achieving this.

National Development Planning

Botswana's National Development Plan 8 (NDP 8) comes at the dawn of the third millennium, and focuses on sustainability, which stresses the role of natural resources in providing for present generations and posterity. Sustainability is seen as a strategic concept that links population, the economy, and natural resources together in the context of socio-economic development for the long term. It raises such questions as under what conditions can natural resources be used so that their long term yield potential is not decreased, and how can inter and intra-generational equity be assured. Sustainability, therefore calls for the appropriate use of natural resources and consideration of environmental costs and benefits in development planning.

In conformity with the principles of Agenda 21, Botswana's planning for sustainable development extends beyond the time horizon of the NDP 8 to consider issues of a long term nature which are crucial for a better quality of life for present generations and for posterity. The long term planning perspectives are based on the following four pillars:

- human resources development;
- sustainable use of natural resources;
- sustainable economic growth and diversification; and
- timely policies, management and decision making, combined with democracy, a free market economy, and political stability.

One of the challenges during the NDP 8 will be to reduce relative and absolute poverty through increased incomes and employment creation. An analysis of the structure of poverty, including its underlying causes has been undertaken. For this study, programmes are being designed which aim at poverty alleviation and reduction. The planning process is intended to ensure that maximum benefits are derived from the limited financial resources available to the Government by prioritizing policies, programmes and projects. The planning also allows the Government to set targets against which its performance can be objectively evaluated. Government policy is also focused on creating an environment conducive to private sector development and expansion.

Employment constitutes a major source of income and employment creation and has been central to all the previous National Development Plans and will continue to engage the Government's attention in the future. Hence the challenge facing the country now and in the future is how to design a strategy that will combine a reduction in the growth of the population with an increase in the growth rate of the economy.

Population and Development

The centerpiece of the Government's development efforts since the inception of the First National Development Plan (1968-1973) is to raise the standards of living of the population of Botswana. In line with this, development plans have been guided by the planning objectives of sustainable development, rapid economic growth, economic independence, and social justice.

In striving to achieve these objectives, the Government has taken cognisance of the fundamental inter-relationship between population and development, especially the close and continuous interaction between population growth, on the one hand, and growth of the economy, poverty alleviation, human resources development, gender equality and empowerment, environmental considerations, and sustainable development on the other. Consideration of these linkages between population and development is crucial in the formulation of development policies, programmes and projects, especially as people are both agents as well as beneficiaries of development.

A population policy which is to provide a clearly defined framework for the interaction of population factors in development planning at all levels and strengthen the direction, cohesion and coordination of the many intervention efforts undertaken by the government, non-governmental organizations and private sector in the area of population and development, is currently being formulated. This national population policy recognizes the fundamental human rights and freedoms enshrined in the Botswana Constitution and is enshrined upon Botswana's four national guiding principles of democracy, development, self reliance and unity, which are in accord with the traditional Botswana culture of promoting social harmony.

In the foregoing context, the Botswana Government adheres to these obligations to ensure equal access and opportunity to development and we do not encourage separate development for any individuals or communities.

Conventions

The Botswana Government signed the Convention on Climate change during the UNCED World Summit, and has subsequently ratified the following:

a) the Convention to Combat Drought and Desertification
b) Biological diversity
c) Wetlands of International importance especially as Water Fowl Habitats
d) the Convention on the International Trade in Endangered Species (CITES) and
e) the Southern African Centre for Ivory Marketing (SACCIM)

The implementation of the provisions of the these conventions is underway, despite the limiting resources. An effective implementation of the provisions of the these conventions requires substantial flows of new and additional financial resources in order to cover the incremental costs for the actions we have to take to deal with such environmental problems and to accelerate sustainable development.

Botswana is also an active member of the Southern African Development Community (SADC) and the Southern African Customs Union (SACU).

Our adhesion to some of these conventions, particularly CITES, however, prohibits us from utilizing some of the resources that we have conserved, particularly the elephant herds which are now too large for our wildlife habitats and are already doing irreparable damage to the ecosystem. Botswana's own herd is estimated at 80,000 and our efforts, together with a group of five countries in Southern Africa, to have some utilization schemes developed have been strongly resisted by the international community.

The worrisome thing about this particular issue is that objective scientific facts are being ignored. It is in this context that Southern African countries seek to ensure that limited and regulated trade in ivory is permitted by CITES once again. Such trade could significantly enhance the value of elephants to those who live with them on a daily basis, thus providing an incentive for the protection and conservation of this vital resource.

National Conservation Strategy and Environmental Assessment

In line with principles 16 and 17 of Agenda 21, Botswana has a National Policy on Natural Resources Conservation and Development which calls for a comprehensive evaluation of all the economic, social, and environmental implications of major policies, programmes and projects before they are implemented, to foster sustainable development.

The internalization of environmental costs in economic decision making helps bring a system wide perspective, a long term view which underscores prevention, and a package of ecological practices that reinforce sound socio-economic development.

Currently, the system of Environmental Impact Assessment (EIA) is being legislated and is intended to provide for the concept of Strategic Environmental Assessment and Environmental Health Impact Assessment, to focus on the overall aspects of the cross-sectoral/cutting planning issues, and to provide for a more comprehensive and rigorous approach for the identification, prediction and appraisal of the environmental factors which affect human health, as an integral part of the assessment respectively.

The concept of the Strategic Environmental Assessment has been applied to the NDP 8 through an "Environmental Audit" which identified, described and assessed the potential beneficial and adverse environmental consequences of the plan. The Audit also identified possible measures to enhance the environmental benefits and to reduce or eliminate environmental disadvantages of the proposed actions, and provided information to planners, decision makers, affected communities and other interested parties, regarding the full range of environmental consequences of the development planning and implementation options.

The cross cutting issues that have emerged from the "Environmental Audit" do emphasize the need to dispel any notions that conservation is a limited, independent sector that is largely concerned with biodiversity or soils, and that ecological factors are an impediment to development which, in some cases, may be overlooked and in others may be considered simply on a case by case basis, and not as matter of policy.

The foregoing measures are to play a key role in the period of implementation of the NDP 8 and beyond, during which conservation should be integrated into development through the use of instruments that help to implement anticipatory policies, the establishment of effective coordination mechanisms that ensure that a cross sectoral conservation policy is applied, and through the adoption of national accounting systems to include measures of conservation performance.

Instruments for the implementation of anticipatory environmental policies include: taxes, charges and financial incentives (to encourage choices compatible with the maintenance of a healthy environment); technology assessment; design and product regulation; anticipatory and pro-active socio-economic and environmental planning; and procedures for the rational use of allocations.

FACT SHEET

NAME OF COUNTRY: REPUBLIC OF BOTSWANA

1. Name of Key National Sustainable Development Coordination Mechanism(s)/Council(s).

Contact point (Name, Title, Office): National Conservation Strategy Agency/Ministry of Local Government Land

Telephone: (267) 302050

Fax: (267) 302051

e-mail:

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2. Membership/Composition/Chairperson:

2a. List of ministries and agencies involved:

2b. Names of para-statal bodies and institutions involved, as well as participating of academic and private sector bodies:

2c. Names of non-governmental organizations involved:

3. Mandate role of above mechanism/council:

4. If available, attach a diagram (organization chart) showing national coordination structure and linkages between ministries:

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AGENDA 21 CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES (with special emphasis on TRADE)

NATIONAL PRIORITY:

STATUS REPORT: Background

Insofar as trade policy is concerned, there is no clear policy on trade and environment. Trade related environmental issues have not been incorporated into the various agreements signed between Botswana and other countries. Furthermore, the flow of information between the coordinating agency and the Ministry was not put in place following the Rio conference. As such, no attempt was made to develop environment friendly trade measures in Botswana. The Ministry of Commerce and Industry has nonetheless put in place certain measures which could be construed to support environmental concerns. One issue is trade and environment, being addressed under the agenda of the World Trade Organization, the other concerns the introduction of unleaded petrol. By and large, the established standards body will develop a specific standardization policy which will address concerns relating to industrial processes, to reduce their impact on the environment. Such activities will contribute immensely to the national policy on environmental protection.

Introduction

For Botswana to develop her economy, it is important that trade policies take into account environmental concerns. It is becoming increasingly clear that the international demand for a freer trade environment will have an impact on environmental issues, and this would therefore need to be reflected in national policies on trade. The Ministry of Commerce and Industry has already taken measures to address some of the concerns. As a result of efforts of the Ministry, Botswana is a contracting member of the World Trade Organization (WTO), which is responsible for the removal of all trade barriers and is also addressing environmental issues. Furthermore, the Ministry also spearheaded the introduction of environment friendly products, such as unleaded petrol, introduced for the first time in Botswana in 1996. The Ministry is also considering legislation on consumer protection which will attempt to address issues relating to the environment.

Implementation Status

The Ministry of Commerce and Industry is carrying out certain measures which will take on board environment issues. It participates in multilateral trade negotiations which also include trade related environmental concerns. At the regional level trade liberalization issues are being addressed, including those which will impact on the environment. At the national level environment friendly products have been introduced. Efforts are also being made to form consumer groups so that consumers can be aware of their rights and can also address issues relating to their environment.

Multilateral Trade Issues and the Environment

Trade related environmental issues are of particular concern to the WTO which has established a committee to look at environment related trade issues and to elaborate specific policies to address such concerns. As a contracting member of the WTO, Botswana is required to ensure that her national policies reflect the aspirations of the international community on environmental issues. The agreements implemented by the WTO cover a wide range of sectors of the economy. These include agreements on trade in goods, services, agricultural commodities, textiles and clothing, trade related investment measures, aspects of intellectual property rights and other trade remedies, such as customs, pre-shipment inspections, and technical standards, etc.

The growing awareness to protect the environment has required that multilateral trade agreements take environmental issues into account. To ensure that environmental issues are taken on board, the WTO established a Committee on Trade and Environment. The environmental issue was in fact at the top of the agenda of the first WTO Ministerial Conference held in Singapore in December 1996. The issues discussed by the Committee on Trade and Environment will form part of the agenda of the future multilateral trade negotiations. Botswana actively participates in these trade negotiations.

Regional Trade Issues and the Environment

Within the SADC region trade liberalization is being addressed and with it the environmental impact of the removal of restrictions need to be taken into account. The intention is that the opening up of world markets for agricultural and forestry products should not impact on the environment. Likewise, it will be ensured that industrial processes or any other similar activities do not cause damage to the Botswana environment and that of her other trading partners. A protocol on trade cooperation in the SADC was developed and signed in 1996. Specific provisions have been made in this protocol to ensure the protection of the environment by all contracting parties.

Domestic Trade Policy and the Environment

Having access to large markets leads to an increase in economies of scale and therefore to a more efficient use of resources, which results from the expansion of production processes and increased incomes. Increased incomes empower consumers and consumer movements which can demand environmentally friendly products and production processes. The Government, through the Ministry of Commerce and Industry, is therefore encouraging and assisting the formation of consumer movements. The Ministry has a dual responsibility of encouraging industrial development and protecting consumers. At present, consumer movements are supported by the Government with the hope that they will grow and become independent. The Government believes that a strong consumer movement will in the future play a major role in issues related to trade and environment at the national and international levels.

The use of environmentally sound technologies in production is essential for the protection of the environment. It is becoming clear that technologies that lead to less pollution save energy, use renewable resources, and recycle waste. While there is no apparent legislation to force manufacturing companies to use environmentally sound technologies, it is noteworthy that some companies, such as the can recycling plant, have taken it upon themselves to protect the environment by recycling their waste products. The Ministry of Commerce and Industry encourages such efforts.

Botswana is a signatory party to the Montreal Protocol which discourages trade in electrical goods which produce CFCs that are harmful to the ozone layer. The Government, through the Department of Customs and Excise, will continue to monitor importation of such goods.

The Ministry of Commerce and Industry is responsible for petroleum matters, therefore it introduced unleaded petrol in 1996 as a measure to reduce environmental pollution. To encourage consumption of this product, the Government subsidized the product by three thebe to a litre. Efforts are continuing to be made to ensure that the product is distributed throughout the country.

As a measure to protect the environment, the Government established a standards bureau to ensure that products produced in Botswana meet specifications of international trade markets, and that imported products do not have a negative impact on the Botswana environment. The Botswana Bureau of Standards, established by an Act of Parliament, in 1996, is an independent body which falls under the Ministry of Commerce and Industry and will endeavor to develop national standards to address the need for safe and environmentally friendly goods and services consumed in the country.

Constraints

While the Ministry of Commerce and Industry will continue to address environmental issues with respect to trade in goods, it has not been easy to reflect on major concerns on the environment. One of the major constraints is the lack of a coordinated approach to environmental issues. There is no proper guidance to enable other Government agencies to take environmental issues on board in their various policies. This is probably due to the lack of understanding of trade and industrial processing issues as they relate to environmental impact. It is also due to the lack of an encompassing environmental policy to address trade issues, industrial processing, and trade in services, such as tourism. As such, there has not been an appreciation of the need for a foreign trade policy which also addresses environmental issues. In this regard, the lack of legislation on foreign trade policy will continue to impact on the need to ensure that environment issues are taken on board at the national level. Further to this, manpower constraints also added to the slow process of developing and implementing policies and legislation to address environmental concerns at the national and international levels.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS					

AGENDA 21 CHAPTER 3: COMBATING POVERTY

NATIONAL PRIORITY:

STATUS REPORT:

- **Focus of national strategy**
- **Highlight activities aimed at the poor and linkages to the environment**

Background

Poverty remains an issue of concern to the Government, as it is a multidimensional problem. The eradication of poverty and hunger, greater equity in income distribution, and human resources development remain major challenges for the Government. The long-term objective of enabling all people to achieve sustainable livelihoods should provide an integrating factor that allows policies to address issues of development, sustainable resource management and poverty eradication simultaneously. This chapter addresses the following programme areas:

a) To provide all persons urgently with the opportunity to earn a sustainable livelihood;
b) To implement policies and strategies that promote adequate levels of funding and focus on integrated human development policies, including income generation, increased local control of resources, local institutional-strengthening and capacity-building, and greater involvement of NGOs and local levels of government, as delivery mechanisms;
c) To develop integrated strategies and programmes for sound and sustainable management of the environment, resource mobilization, poverty eradication and alleviation, employment and income generation, for all poverty-stricken areas

Poverty Issues

Since the inception of the first National Development Plan (1968-1973), the Government of Botswana has directed its development efforts to raising the standards of living of Botswana. In line with this objective, the alleviation of poverty and the provision of basic infrastructure and social services have been the fundamental purposes of development policy. Thus, development plans have been guided by the objectives of sustained development, rapid economic growth, economic independence, and social justice.

The Government of Botswana has put in place many policies and programmes aimed at poverty alleviation, which are implemented by the different sectors at the national and district levels. Specific programmes aimed at enabling the poor to achieve sustainable livelihoods by improving access to productive resources include targeted schemes, such as the Financial Assistance Policy for income generating projects which create employment; the Arable Land Development Programme, which assists resource-poor farmers to produce at subsistence levels and raise income; and the Labour Intensive Public Works programmes to reduce unemployment. Social protection and emergency related schemes, such as the Drought Relief Programme and the Old Age Pension Scheme, are implemented to complement efforts to ensure sustainable livelihoods.

Government Policy is to provide an enabling environment conducive to the growth of the private sector in the urban and rural areas in order to enhance participation. Furthermore, the Government is vigorously pursuing a policy of economic diversification. To further empower the people, a deliberate policy on Human Resources Development has been developed to ensure access to the acquisition of skills that are in demand in the economy. It is realized that government policies have to be matched by timely implementation if they are to be of benefit to the country. Rapid implementation of policies and the creation of an environment conducive to business expansion is emphasized. Over time, policies and programmes are reviewed and evaluated with the goal of improving implementation.

Implementation of Poverty Alleviation Programmes

The Government has undertaken an assessment of past and ongoing poverty alleviation programmes and strategies to evaluate the extent to which these have, or have not, had the desired impact. The indications are that some of the programmes have been generally favourable for generating additional employment, and that existing infrastructure and services, particularly for the provision of social services, need to be reoriented to be used and operated more effectively. The Government continues to make provisions for poverty alleviation programmes in the budgeting process. Programmes targeted at the poor and vulnerable are being implemented through various sector initiatives, such as agricultural programmes, and small business development for income generation and employment creation. In all these efforts, the Government provides initial startup capital to developers.

Future Challenges

Future challenges facing this country are many and complex. In order for the standards of living of people to improve over the coming years, real economic growth must be achieved and the rate of population growth must decline. Some of these challenges include:

- to continue policies for increased productivity;
- to continue policies that maintain macroeconomic stability for effective decision making about investment programmes;
- to provide a conducive environment for income generation and employment creation; and
- to implement policies that influence the demographics of the country.

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Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** see Status Report

3. **Major Groups:** No information

4. **Finance:** see Status Report

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

	1985	1990	1992	Latest 199_	
Unemployment (%)					
Population living in absolute poverty					
Public spending on social sector %					
Other data					

AGENDA 21 CHAPTER 4: CHANGING CONSUMPTION PATTERNS

NATIONAL PRIORITY:

STATUS REPORT:

- **National policy objectives/focus**
- **National targets**

Background

Economic development is for the people who, in turn, are its main agents. On the other hand, the environment will be protected by people who have a stake in its protection. Production is based on natural and human resources. Each sector of the economy utilizes land, water, energy and human resources in the production process. Infrastructure and Government systems facilitate the delivery of services and final products to the population for consumption. This process of production and consumption has to be directed properly so as to maximize welfare and minimize costs, including environmental costs, and to avoid degradation of the environment.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

	1985	1990	1992	Latest 199_	
GDP per capita (current US$)					
Real GDP growth (%)					
Annual energy consumption per capita (Kg. of oil equivalent per capita)					
Motor vehicles in use per 1000 inhabitants					
Other data					

AGENDA 21 CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

NATIONAL PRIORITY:

STATUS REPORT:

Background

This chapter contains the following programme areas and objectives:

a) Developing and disseminating knowledge concerning the links between demographic trends and factors and sustainable development;

b) Formulating integrated national policies for environment and development, taking into account demographic trends and factors;

c) Implementing integrated, environment and development programmes at the local level, taking into account demographic trends and factors.

In addition to the programme areas, the following objectives are outlined:

a) To incorporate demographic trends and factors into the global analysis of environment and development issues;

b) To develop a better understanding of the relationships among demographic dynamics, technology, cultural behaviour, natural resources and life support systems;

c) To assess human vulnerability in ecologically sensitive areas and centres of population to determine the priorities for action at all levels taking full account of community defined needs.

Population Situation

Demographic dynamics of mortality, fertility and migration have an interrelationship with sustainable development. Population and development issues are evidenced in the ramifications of the high population growth rate resulting from high fertility. Other concerns are the marked increase in teenage and unplanned pregnancies, high maternal mortality, uneven population distribution, and a deterioration in the environment. The growth of our population and production combined with unsustainable consumption patterns places severe pressure on the life-supporting capacities of the country. Botswana has a small but rapidly growing population which has more than doubled in size in twenty five years. Between 1971 and 1996, the population increased from 584,644 to 1,495,993. The age structure of the population is youthful, with children under the age of 15 constituting 40.4 percent of the total population in 1996. Consequently, the proportion of the population in the age group 15 - 64 increased from 46.9 percent in 1971 to 56.6 percent in 1996, while the proportion of the elderly (65 + years) decreased from 5.6 percent in 1971 to 3.1 percent in 1996. The proportion of females in the total population has consistently been higher than that of males, although it declined from 54.3 percent in 1971 to 52.2 percent in 1991, and to 51.9 percent in 1996. In both urban and rural areas females predominate, accounting for about 50 percent in the same years.

In terms of indicators, Botswana has achieved remarkable reductions in mortality levels during the 1970s to the 1990s. The crude death rate fell from 13.7 per thousand in 1971 to 11.5 in 1991, and was projected to fall below 10 in 1996, while the infant mortality rate dropped from 97.1 to a projected 41 per thousand live births in 1996. Consequently, life expectancy at birth rose from 55.5 in 1971 to 66 years in 1996. Life expectancy at birth in rural areas rose from 54.9 years to 62.3 years, whilst that of urban areas rose from 54.9 years to 62.3 between 1981 and 1991. The rural areas experienced high gains in life expectancy at birth compared to the urban areas. This was due to increasing social equity and access to health services. On average women outlived men by about 7 years in 1981 and 3.8 years in 1991. However, maternal mortality remained at a high level, ranging from 200 - 300 per 100,000 in 1991.

Access to health services has been enhanced, with populations served being within 15 km of a health facility, increasing from 80 percent in 1985 to 85 percent in 1991. However, per capita health expenditure has increased significantly during the period partly due to the sparse population distribution. The goal to provide adequate health care for all is likely to be made more difficult by the prevailing high fertility and attendant young structure of the population coupled with the recent surge in the HIV/AIDS epidemic.

Botswana experienced high fertility rates during the 1970s and 1980s. However, there is evidence of a decline thereafter, from 6.5 in 1971 to an estimated 4.23 in 1991. A family health survey which was started in 1996 and scheduled for completion in 1997 will hopefully provide the basis for more information on fertility trends. In the education sector 90 percent of the school age population (7-13 years) were in school in 1993. There is almost 100 percent access from primary to junior secondary education. Between 1981 and 1993 the total literacy rate increased from 34 percent to 68.9 percent. Over the same period, the literacy rate for males increased from 32 percent to 66.9 percent, while that of females rose from 36 percent to 70.3 percent. Given the present rate of population growth, the school age population will grow rapidly and so will the level of resources that will be required to provide additional school places and facilities.

Means of Implementation

The Government considers population issues and their economic and social ramifications as priority areas for planning and policy making. During the National Development Plan 8, financial allocations have been made towards population and development programmes. The implementation of these programmes is, however, an ongoing activity carried out through several sectors, such as education, health, housing, agriculture, and so forth. The centerpiece of the Government's development efforts, since the inception of the First National Development Plan (1968 - 1973), remain that of raising the standards of living of the people of Botswana. In line with this, development plans have been guided by the objectives of sustainable development, rapid economic growth, economic independence, and social justice.

In striving to achieve these objectives, the Government has recognized the fundamental inter-relationship between population and development, especially the close and continuous interaction between population growth, on the one hand, and the growth of the economy, poverty alleviation, human resources development, gender equality and empowerment, environmental conservation and sustainable development, on the other. As a consequence, institutional arrangements are established to address these issues effectively. A Parliamentary Sub-Committee on Population and Development, and a National Council on Population and Development together with its Secretariat are in place.

Consideration of the linkages between population and development is crucial in the formulation of development policies, programmes and projects, especially as people are both agents as well as beneficiaries of development. A population policy together with an implementation plan of action have been developed. The population policy, which will provide a clearly defined framework for the integration of population factors into development planning at all levels and strengthen the direction, cohesion and coordination of the many intervention efforts undertaken by government, non-governmental organizations and the private sector in the area of population and development, will be presented to Parliament in July 1997 for consideration and adoption. The national population policy recognizes the fundamental human rights and freedoms of the individual, as enshrined in the Botswana Constitution. In addition, the Government is currently in the process of developing a national population information, education and communication strategy to enhance implementation of the policy.

Future Challenges

The main challenge is to ensure a balance between economic growth, environmental conservation, and the rate of population growth, and to enhance the quality of life of the people through the various social and economic programmes. The young age structure of the population will continue to persist for several years due mainly to past high fertility levels and the rapidly improving chances of survival, particularly for infants and children. The future outlook for development shows that the high population growth phenomenon and associated high dependency burden will put considerable pressure on households, communities and the Government. It will also put considerable pressure on the nation's fragile ecosystem, threaten the Government's ability to continue to improve the delivery of services, and compromise its ability to create and sustain employment. Reduction of population growth will enable the Government to promote growth, to diversify the economy, and to enhance the nations' physical and human capital with a view to alleviating poverty. Despite all these challenges, the HIV/AIDS epidemic remains the main concern for future productivity, employment, and the improvement of the standards of living of people.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

	1990	1993	1996	
Population (Thousands) mid-year estimates			1,495	
Annual rate of increase (1990-1993)				
Surface area (Km^2)				
Population density (people/Km^2)				
Other data				

AGENDA 21 CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

NATIONAL PRIORITY:

STATUS REPORT:

Background

Health and development are intimately interconnected. Both insufficient development, leading to poverty, and inappropriate development resulting in over consumption, coupled with an expanding world population, can result in severe environmental health problems in both developing and developed nations. Action items under Agenda 21 address the primary health needs of the population, since they are crucial to the achievement of the goals of sustainable development and primary environmental care.

The programme areas of this chapter are as follows:
a) Meeting primary health care needs, particularly in rural areas;
b) Control of communicable diseases;
c) Protecting vulnerable groups;
d) Meeting the urban health challenge; and
e) Reducing health risks from environmental pollution hazards.

Health Situation

The Health Sector in Botswana has expanded significantly since the 1970s in terms of infrastructure and associated requirements for trained manpower. The challenge faced by the health sector is to elaborate a clinical and public health package that the Government can offer to all its citizens, and also to provide discretionary services which, as a cost recovery measure, may not be totally free of charge. Within the health care sector, the main objectives are financial and system sustainability. The Government's aim is for the health sector to generate sufficient resources to enable continued and improved provision of health care for a growing population. At the same time, the Government aims at sustainability within the health sector for effective functioning over time. Sustainability is central to the planning of Botswana's health system because of the limited resources available for Government budget, including health.

A. Primary Health Care

Botswana has made significant investments in health infrastructure and services since its independence. The country has made a commitment to provide for basic health services. The strategy places emphasis on health infrastructure as well as district health services provision. By 1997, 90% of the population was within a 15 km radius of a health facility in the more densely populated eastern portion of the country, while in the rest the country 66% of the population was within 8 km of a health facility. Variations exist between facilities in terms of distances compared to the more vastly populated eastern part of the country.

B. Health Interventions

Programmes and strategies have been put in place to monitor progress and setbacks and to evaluate their effectiveness, and they continue to be followed up, monitored, evaluated and re-planned on an ongoing basis. These include, amongst others, improved curative health services, health manpower development, and technical support services, such as pharmaceutical, X-rays and laboratory services, and integrated primary health care services.

Health Services, despite the user contribution, are heavily subsidized in an attempt to improve the overall quality of life of the people. Primary Health care programmes that are in place include, amongst others:
- Epidemiology and Disease Control Services;
- Occupational Health Services;
- Environmental Health Services;
- Food Sciences Laboratory Services;

- Maternal and Child Health/Family Planning Services;
- Expanded Programme on immunization;
- Food and Nutrition;
- Health education Services;
- HIV/AIDS and Sexually Transmitted Diseases;
- Oral Health Services; and
- Rehabilitation for Persons with Disabilities, as well as Curative Services.

Available health indicators show remarkable improvements in the health status of people country-wide.
a) Malnutrition rates for under-five year old children have declined from an average of 28%-30%, during the early 1980s, to 15%-16% nation-wide by the 1990s, with the advent of generalized supplementary feeding during the extended drought;
b) Infant mortality rates have declined from 110 per 1000 live births in 1970, to 92 per 1000 live births in 1971, and 41 per 1000 live births in 1996.
c) Life expectancy at birth increased from 56 years in 1971 to an average of 62 years in 1991; and
d) Maternal mortality remained high at 200-300 per 100,000 live births in 1991.

The rapid expansion in the delivery of health services, coupled with rapid population growth rates, have translated into shortages of resources, especially trained health manpower and transportation. The HIV/AIDS epidemic and related diseases, such as tuberculosis are, however, threatening to negatively affect and/or even reverse the achievements that have been made in the health sector. Diseases such as malaria, which were previously unknown to be severe in Botswana are now not only worsening but are also showing signs of resistance to drugs. In addition, some of the non-malarious areas are experiencing serious malaria outbreaks of late.

Major Goals of the Health Sector as set according to Agenda 21
a) By the year 1995, Botswana had aimed at reducing deaths due to measles by 95% and reduced measles by 90%, a target that has been achieved.
b) Eradicate Poliomylitis by the year 2000. The national Polio immunization days have been launched whereby polio supplementary immunization activities are undertaken country-wide. The country has been reporting zero polio cases for the last five years. A disease surveillance system capable of detecting cases of acute flaccid paralysis is also in place. In addition, Botswana has, for the past 12 years, maintained an oral polio vaccine III coverage which allowed the country to eradicate poliomylitis this year, 3 years prior to the established target.

Strategies to eliminate measles and neonatal diseases have been planned and are to run concurrently with polio eradication activities. Health Education activities including community sensitization, mobilization, participation, involvement and motivation to address health problems are being carried out.

The Government provides portable drinking water coverage throughout the country to rural and major villages, and water hygiene programmes and sanitation disposal (including excreta) are in place but need strengthening. The safe water coverage is over 70%.

Childhood diarrhea diseases and the number of deaths resulting from diarrhea diseases, as well as acute respiratory infections are being affected by the HIV/AIDS epidemic despite the measures in place to address them. Presently, with the HIV/AIDS epidemic, Botswana is experiencing a serious resurgence of tuberculosis, which remains the number one killer disease despite intensified interventions to address the problem. This is mainly due to the HIV/AIDS co-infection with PTB and experienced drug resistance.

C. Hospital Services

In consonance with Agenda 21, the Government remains committed to effectively address environmental health issues and other related concerns. As a consequence, it has embarked upon the following strategies:

i) A detailed and comprehensive study was undertaken on the management of medical waste in Botswana in 1995, as part of the "Waste Management Project". The study produced a reference resource document for the development and implementation of policies and guidelines for the disposal of medical waste in Botswana. The report also contains a code of practice which forms the basis for medical waste management and against which performance of our waste management practices can be evaluated as a means of an audit.

ii) The effective implementation of the code of practice for waste management depends fundamentally on three factors:

a) Detailed knowledge and understanding of the code of practice by all hospital staff;
b) A commitment to ensure that the precepts contained within the code of practice are followed meticulously at all stages in the management chain. This includes the requirement for effective supervision at all levels.

iii) Effective stock control of all consumable items for correct waste management. In other words, it is mandatory that plastic bags, sharps disposal containers, waste bins etc, are always in supply. In addition, it is necessary that the appropriate equipment for handling waste, such as trolleys for transporting waste within the hospital and incinerators are always functioning efficiently.

The implementation of the code of practice has already commenced through addresses to the hospital staff, and by mounting a series of workshops to introduce and sensitize staff on concepts of effective medical waste management and its importance. This enhances the safety of those within the hospitals and the public at large.

A training programme will be developed to ensure that all staff has been adequately instructed. Emphasis will be placed on the importance of segregating the clinical wastes from the domestic waste, and the use of appropriately labelled and colour coded containers and plastic bags to ensure that this is done properly.

Future Challenges

The challenge in the health sector remains that of containing the effects of the HIV/AIDS epidemic, together with other associated illnesses, and to sustain what has been achieved in the past given the current resource availability. For the Government some of the heavy investment undertaken in human capital development will be lost through AIDS and there may be negative effects on savings and investment, thus jeopardizing Sustainable Economic Diversification. Providing for the care of the sick and orphans, and maintaining a fair balance in resource allocation between curative and preventative health care, will be a major development challenge to be addressed in the future. There is a need to mobilize additional resources to implement the planned programmes in the health sector.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** see Status Report

3. **Major Groups:** No information

4. **Finance:** see Status Report

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

	1971	1991	1996	
Life expectancy at birth Male Female	56	62		
Infant mortality (per 1000 live births)	92		41	
Maternal mortality rate (per 100000 live births)		200-300		
Access to safe drinking water (% of population)			70	
Access to sanitation services (% of population)				
Other data				

AGENDA 21 CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

NATIONAL PRIORITY:

STATUS REPORT: **Background** - The main objective regarding human settlements is to improve their social, economic and environmental quality, and the living and working environments of all people, in particular the urban and rural poor. Accordingly, improvements should be based on technical cooperation activities, partnerships among the public, private and community sectors, and participation in the decision making process by community groups and special interest groups such as women, indigenous people, the elderly and the disabled. These approaches hence form the core principles of the national settlement strategy.

There are eight programme areas to be covered in this chapter. In this context, a recommendation has been made that countries set priorities in accordance with their National Plans and objectives, taking into account their social and cultural capabilities. It has also been recommended that countries make provisions to monitor the impact of the strategies on marginalised and disenfranchised groups, with particular reference to the needs of women.

The eight programme areas include:

(a) Providing adequate shelter for all;
(b) Improving human settlements management;
(c) Promoting sustainable land use planning and management;
(d) Promoting integrated provision of environmental infrastructure, namely water, sanitation, drainage and solid waste management;
(e) Promoting sustainable energy and transport systems in human settlements;
(f) Promoting human settlements planning and management in disaster prone areas;
(g) Promoting human resources development and capacity building for human settlements development.

The objectives of this report are as follow:

(a) To give a synopsis of progress achieved so far by way of implementation of the various programme areas of the chapter;
(b) To give a run-down of on-going activities;
(c) To give a run-down of planned activities; and
(d) To indicate problems encountered in the implementation process.

Although Agenda 21 is recent and emanates from the 1992 Conference on Environment and Development, it is important to note that implementation of some of the activities reflected on the Agenda pre-date the Rio conference.

Implementation of Various Programme Areas

Provision of Adequate Shelter for All

As per Agenda 21, the objective of this programme activity is to achieve shelter for rapidly growing populations and for the currently deprived urban and rural poor, through an enabling approach to shelter development and improvement that is environmentally sound. Various activities have been undertaken in Botswana to ensure that the majority of the population have access to shelter which is in line with this activity objective.

The Government published the National Policy on Housing in 1981. The long term objective of this policy is "to ensure safe and sanitary housing for everyone". To achieve this objective, the Government instituted a number of programmes to facilitate the process of shelter delivery. These include but are not necessarily limited to the following:

The Self Help Housing Agency (SHHA) Programme: This programme was introduced in 1973 to assist the low income urban households to develop their own houses. Under this scheme, the Government provides basic services such as earth engineered roads, communal water stand pipes, and a pit-latrine to each plot. At the inception of this programme applicants with an income range of between P800 and P7,000 were provided with free serviced plots on a first-come first-served basis. Plot holders were given tenurial security through a Certificate of Rights (COR). To assist plot holders to develop houses, a building material loan (BML) of P1,200 was provided upon request.

As of 1992, the service standards of SHHA areas have been improved to include individual plot water connection and water borne sewage system, as some of the requirements in plot development, and provision of electricity to the plot boundary. Other major shifts in this programme include an increase of the qualifying income range to between P1,500 and P10,000, the replacement of COR with the Fixed Period State Grant (FPSG), and an increase of BML to P3,600.
The SHHA Programme has also been used in upgrading the squatter settlements of Naledi in Gaborone and Peleng in Lobatse which existed prior to its inception.

Shelter provision in rural areas has been on individuals initiatives. In those areas, the most important pre-requisite for housing development which is access to land has not really been a disturbing issue due to the fact that all male and female citizens who are of age are allocated tribal land for free. In an effort to facilitate shelter provision in rural areas, the government intends to introduce a rural housing programme.

Land Servicing Programme: Shortage of serviced land has been identified as one of the major constraints to urban housing development. As such, a major land servicing programme, the Accelerated Lard Servicing Programme (ALSP), was introduced in 1987 at an estimated cost of P500 + million. The objective of the programme was to service land for all use classes, such as residential, commercial and industrial, in all urban areas. The plots are provided on a cost recovery basis, and the involvement of the private sector in land development was seen as one of the most important factors.

Capacity Building in Shelter Provision: The Government has established a Housing Department in order to give housing the attention it deserves, especially in view of the fact that shelter constitutes one of the basic human needs. This Department is charged with the responsibility of promoting housing development and improvement through policy initiatives that create an enabling environment for shelter provision. Apart from the government, various other institutions are involved in the provision of shelter. These include the Botswana Housing Corporation which is involved in the provision of houses for rental and sale in towns and some of the urban villages. Financial institutions, such as Commercial Banks, the Botswana Building Society, among others, as well as the government are providing the necessary financial resources to members of the public to build houses.

Improving Human Settlements Management: As per Agenda 21, the objective of this programme area is to "ensure sustainable management of all urban settlements, particularly in developing countries, in order to enhance their ability to improve the living conditions of residents, especially the marginalized and disenfranchised, thereby contributing to the achievement of national economic development goals". A number of activities have been suggested to facilitate the achievements of this objective. Some of these activities have already been or are being implemented in one way or the other in Botswana.

National Settlement Policy (NSP): The policy was introduced during the NDP5 (1979 - 1985) to counteract the then prevailing bias of investment to towns, especially Gaborone. The main concern was the fact that the inordinate growth of Gaborone threatened the balance of development in the country to the detriment of other major centres which also needed to be stimulated to enhance their development potential. The overall goal of the NSP is to provide a framework for guiding the distribution of investment in a way that reflects settlement size, population, economic potential, level of infrastructure, and the role of settlements as service centres. The NSP encourages the development of settlements in terms of:
(i) Provision of adequate and up to standard infrastructure and services;
(ii) Generation of employment; and
(iii) Improvement of housing conditions.

The thrust of the NSP is to encourage intermediate city development and therefore it has established a three tier settlement hierarchy. These are as follows:

(i) Primary centres which have a population of 20,000+ and a high development potential. These include the four largest towns and eight largest urban villages.
(ii) Secondary centres with a population range of between 10,000 and 19,999.
(iii) Tertiary centres which constitute the remaining settlements with populations ranging from 500 to 9,999.

Major Village Infrastructure Programme: This programme aims at providing basic infrastructure, such as improved roads, potable water, storm water drains and electricity in large villages. The main objective of this programme is to make these settlements attractive to investors and as such make them alternative centres for commercial and industrial location.

Other activities which are undertaken with the view of improving human settlement management include the following:

(i) **Financial Assistance Policy (FAP):** The policy aims at providing financial assistance to investors to establish employment generating activities in both rural and urban areas. The FAP has an inbuilt mechanism of encouraging women to participate in the business sector by giving them a larger grant. Furthermore, the grant given for locating in rural areas is larger than that given for investors locating in towns.

(ii) **Industrial Sites and Factory Shells:** In an effort to create an enabling environment for employment generation, and in an effort to support small scale business initiatives, local authorities in rural and urban centres have designated industrial sites and factory shells. Some of these are provided with water and electricity. The factory shells are rented out and industrial plots are allocated to investors.

Promoting sustainable Land-Use Planning and Management: The issue of access to land, especially in urban areas, is often a concern. This is further compounded by competing demands of land for industry, commerce, agriculture open spaces, and so forth. Other issues of concern include unsustainable practices, such as encroachment on environmentally sensitive areas. The objective of this programme area, as per Agenda 21, is "to provide for the land requirements of human settlement development through environmentally sound physical planning and land use so as to ensure access to land to all households and, where appropriate, the encouragement of community and collectively owned and managed land".

It is the policy of the Government that all citizens should have easy and equal access to land. In order to realize this, three land tenure systems have been put in place. These are tribal lands, state lands and freehold lands.

a) Tribal Land: (communal land) comprise about 71 % of the total land area of the country and is allocated freely to citizens for residential, commercial, industrial, civic and community uses. Tribal land can be granted either under customary land right or common law lease. The administration and allocation of tribal land is the responsibility of land boards. Tribal land is administered through the Tribal Land Act.

b) State Land: Comprises 23% of the total land area of the country and includes National Parks, Game Forest reserves and leasehold ranches. Until 1993, state land could be allocated under the Certificate of Right (COR) and the Fixed Period State Grant (FPSG). The CORs were introduced during the inception of the SHHA programme in order to facilitate access to land by urban low income groups. COR titles are administered by town councils. The FPSG is applied to urban plots which are fully serviced on either a 99 year lease, for residential, and 50 years for commercial/industrial. State land is administered through the State Land Act.

c) Freehold land: Comprises about 6% of the total land area of the country. The government no longer allocates land under the freehold system. Freehold land is held indefinitely. Currently some of the freehold land is being bought by the government and converted to either state land or tribal land. Furthermore, some of the freehold land is subdivided and sold to other people or subdivided for township development (e.g. Phakalane).

Other measures put in place to effect sustainable land use planning and management include:

(i) **Preparation of District Land Use Plans** - land use planning is not a new phenomenon in Botswana. Past experiences and records indicate that the traditional chiefs who had authority on land have always done some form of land use planning. Formal land use planning in Botswana started with the implementation of the Tribal Grazing Land Policy, in 1975, when some areas were zoned for wildlife use, others became reserved areas, while other areas continued to be for communal use. Land use planning is done on the basis of assessed needs for various land use types, socio-economic impacts, resource endowment and use, as well as environmental impact. This is a necessary step towards sustainable land and natural resource management. Various legislation and policies come into play during the preparation of the integrated land use plan. Some of which are the Tourism Policy (1990), Wildlife Conservation and National Parks Act (1992), National Policy on Agricultural Development (1991) and many others which have a bearing on land.

The districts up to now continue to prepare and update their respective integrated land use plans, this happens from time to time as policies and legislation are reviewed. In the preparation of such plans the communities have major inputs with regard to the various land uses. This is in realization of the fact that to have an implementable and sustainable land use plan, the communities should be the ones who decide the uses on a particular type of land. It should be noted, however, that not all districts have such plans. Those that do not, have started some studies, such as the water point survey, which will facilitate the zoning of the land and preparation of the plans. The Tribal Land Act was amended in 1994 to allow the land boards to gazette the land use plans. This will ensure consistency in the use and management of the planned areas.

(ii) **Land Inventory** - the primary aim of land inventory is to improve record keeping and retrieval of information in Land boards. Various land inventory projects and studies have been carried out in Botswana, but non of these have so far been implemented on a national scale. These include the Maun Pilot Project, the Ramotswa Pilot Scheme, and so forth. However, several implementation problems were encountered mainly as a result of the lack of appropriate staff in the Land boards. In some cases, the cost of the pilot projects was considered to be high. There were also problems of inadequate consultations between and among relevant institutions, resulting in duplication of efforts.

In order to standardize and consolidate all these efforts, the Ministry of Local Government, Lands and Housing instructed the Departments of Surveys and Mapping, Lands and Town and Regional Planning to work in conjunction with Land boards to design and propose for adoption and implementation an adequate and cost effective Land Inventory System.

(iii) **Preparation of Settlement Development Pans for Villages and Towns** - The Town and Country Planning Act 1977, which is the main legislation guiding physical planning, aims at making provisions for an orderly and progressive development and control of land in both urban and rural areas. The Urban Development Standards (1992), and the Development Control Code (1995) also facilitate the orderly planning of settlements.

Promoting the integrated provision of environmental infrastructure: water, sanitation, drainage and solid-waste management.

Sustainable urban development hinges on the availability of clean water supply and provision of infrastructure for sanitation and waste management. An integrated approach in the provision of environmentally sound infrastructure in human settlements is seen as an investment that fosters sustainable development and that can improve the quality of life, increase productivity, improve health, and reduce the burden of investments in curative medicine and poverty alleviation. As per Agenda 21, the objective of this programme area is "to ensure the provision of adequate environmental infrastructure facilities in all settlements by the year 2025".

The District and Town Councils have the portfolio responsibility of providing such infrastructure in their respective areas. The Central Government provides an enabling environment for the provision of the infrastructure. The main policy of the government in providing infrastructure, especially in the urban areas, is that of full cost recovery. In towns, developers are hence required to pay rates and a service levy. Currently, efforts are being made to look into ways of applying the cost recovery principle in the urban villages, especially in view of the fact that they also need a certain level of infrastructure which would make them attractive to investors. Several Programmes/Projects have been instituted to facilitate provision of environmental infrastructure country wide.

i) The National Rural Sanitation Programme: This Programme is geared towards the facilitation of safe and sanitary living conditions in rural areas. Through this programme, individuals in villages are assisted to construct pit latrines by providing free substructures. The contribution of the beneficiary is to develop the superstructure. A major setback of this programme has been the inadequate implementation capacity as well as the inability of some of the beneficiaries to complete the superstructures.

ii) Waste Management Project: Waste disposal, littering, and the indiscriminate dumping and unsightly stockpiling of wastes are issues of great concern in the country. Very often wastes have been crudely dumped in burrow pits or sites which are not properly investigated. The Government has embarked on a waste management project whose main focus is on the prevention and control of water pollution through proper waste management, which includes proper location for waste disposal sites. This project, which is at a fairly advanced stage, is undertaken on the realization that waste disposal if not done properly might pollute the scarce water resources and the environment. The waste management project is at a fairly advanced stage. As part of this project a draft Waste Management Act and guidelines for landfill sites are about to be completed.

Other Activities

There are several other activities which have relevance to the promotion of sustainable Human Settlements development. Some of these include:

(i) The roles played by the Botswana Technology Centre and Rural Industries Innovation Centre in developing energy saving and renewable energy technologies. Some of these technologies include the use of solar power, wind power and biogas. These institutions are also involved in disseminating information on the use of energy saving techniques and energy saving appliances.

(ii) **Natural Disaster and Relief Programmes:** Due to recurring droughts, the Government has instituted a Drought Relief Programme to assist the worst affected areas with basic relief supplies. The Government has also established a National Disaster Preparedness Committee. This committee is charged with the responsibility of rendering assistance to disaster victims in times of need. There are also similar committees established at the local levels.

Planned Activities

Some of the Planned Activities include: (i) Review of the Housing Policy; (ii) The Finalization of the National Housing Plan; (iii) The Introduction of a Rural Housing Programme; (iv) The completion of the National Settlement Policy; (v) Possibility of introducing some form of cost recovery in some of the urban villages; and (vi) Introduction of the concept of sustainable cities programme.

The achievement of sustainable human settlements development entirely depends on consultations between and participation by the various actors, such as the central government, local authorities, private and parastatal organizations, non-governmental organizations and the public at large.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** see Status Report

3. **Major Groups:** see Status Report

4. **Finance:** see Status Report

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

	1990	1995	
Urban population in % of total population			
Annual rate of growth of urban population (%)			
Largest city population (in % of total population)			
Other data			

AGENDA 21 CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

(See pages vii and viii at the beginning of the profile)

NATIONAL PRIORITY:

STATUS REPORT:

PROGRAMME OF ACTION FOR SUSTAINABLE DEVELOPMENT

Sustainable Development in Botswana

Botswana's development efforts since independence have been to raise the standards of living of the people of Botswana. This development is guided by four planning objectives, which include rapid economic growth, economic independence, social justice, and sustainable development.

Past development policies have been primarily concerned with problems of unemployment, poverty, and inequity in the distribution of incomes. Environmental concerns have not explicitly featured in policy matters although sustainable development has been one of the aforementioned objectives of development planning. Consequently, the constraints of development planning appear to be binding on all environmental issues to varying degrees.

Achievement of sustainable development requires a comprehensive evaluation of the environmental, economic, social and other implications before major new development policies, programmes and projects are undertaken. Consistent with this, Botswana has approved a National Conservation Strategy that is specifically geared towards:

a) conserving the sustainability of the countries' natural resource base, and
b) improving the ways in which these resources are used and managed.

Government Policies, Programmes and Practices

Some of the development goals of the Government are:

a) the development of new and better uses and optimization of existing natural resources;
b) emphasis on environmental education; and
c) maintenance of the balance between population growth and natural resources availability.

These goals are reflected in various statutes and development programmes that have been promulgated over the years. The laws cover various aspects of land and other resource use and conservation. Various programmes and projects have been introduced to conserve the environment. Among the major ones are:

a) The National Policy on Grazing Land, whose main aim is to deal with the problems of overgrazing. The programme is yet to achieve this objective and has recently been reformulated to emphasize land use planning and management on a sustainable basis;
b) The Arable Land Development Programme, which aims to improve production in the arable sector;
c) The National Settlement Policy, which is concerned with planning the settlement system in the country; and
d) The Communal First Development Area (CFDA), a rural development strategy whose major aim was to integrate rural development.

The Government is also engaged, through various institutions, in environmental education, the major source for the majority of the people being the informal and non-formal education. In this activity, non-governmental organizations play an active role. There is certainly need for more environmental education and research so that more information is provided on available resources and various other aspects of the environment.

The Challenge for Sustainable Development (Responding to the Challenge)

Although the concept of sustainable development gained prominence on the international scene only a few years back, it has been one of the objectives of development planning in Botswana since independence in 1966. The term has appeared as an objective in all the subsequent development plans, but its meaning has been expanded to reflect the changing development realities over the years. Botswana will continue to address the development challenge through the elaboration of the four development objectives below:

Economic Independence

Internal

- Training, localization, and diversification of the economy;
- Maximization of opportunities for citizens;
- Specific targets for manpower development.

External

- Diversification of commercial routes, trade, and investment partners;
- Sources of aid;
- Participation in SADC and related organizations.

Rapid Economic Growth (Long Term)

- Target growth rate in the given plan period;
- Sectoral target growth rates;
- Sectoral investment targets
- Sectoral projects.

Social Justice

- Redistribution of income;
- Elimination of unemployment;
- Formal employment (aggregate Figures);
- Sectoral targets;
- Guarantee of minimum of living standards for all Botswana;
- Health, water, and education for all;
- Rural development.

Sustainable Development

- Environmental protection;
- Diversification of the economy from dependance on minerals;
- Strategic measures to eliminate economic fluctuations and cope with other drought factors;
- Maintenance of adequate reserves to counter these.

The Road From Rio - Five Years On: Current Policies, Programmes and Practices.

Botswana participated in the 1992 Rio Summit following the approval of a National Conservation Strategy and the National Policy on Natural Resource Conservation and Development. The primary objective of the policy is "... increasing the effectiveness with which natural resources are used and managed, so that beneficial interactions are optimized and harmful environmental side effects are minimized....".

This mandate is executed through a NCS (Advisory) Board and its (Coordinating) Agency, which are responsible for integrating the work of the sectoral ministries and interest groups in Botswana into national development planning.

The institutional linkages between the NCS (Advisory) Board and its (Coordinating) Agency, on the one hand, and the sectoral ministries, on the other, is effected through a system of environmental liaison to ensure that the sectoral ministries, departments, local authorities, parastatals, and other actors involved, show due regard, in the course of their work, for the conservation and enhancement of the environment in the interest of achieving sustainable development.

The strategy is being implemented through an Action Plan that should be monitored as part of the National Development Planning. The Action Plan is currently being executed to translate into policies, programmes and projects for implementation by the Government and other stakeholders.

The main thrust of the Action Plan is the introduction of new innovative approaches to achieve the integration and conservation of natural resources into the development process.

The five measures being addressed as an integrated process in the formulation of the Action Plan are:

a) **Encouraging Economic Diversification** - which describes the different measures to diversify the economy through the use of the natural resource base. This process identifies the natural resources that have the potential to create employment and income, particularly in areas where there are no formal employment opportunities.

b) **Economic Incentives and Disincentives** - which define specific policies and instruments of a macro-economic nature that serve as incentives and disincentives in the quest to improve the conservation of natural resources.

c) **Legislative Provisions and Reforms** - that aim at promoting environmental rehabilitation.

d) **Improved Public Awareness, Education, Training and Research Measures** - see Chapter 36

These strategic goals offer policy makers both better ways of tracing the environmental and social impacts of development, and improved decision making. This maximizes the net wealth of economic activities while maintaining and increasing the stocks of economic, environmental and socio-cultural assets over time.

Implementation status
The Botswana Government formulated a National Conservation Strategy that calls for a comprehensive evaluation of all the economic, social and environmental implications of policies, programmes and projects before these are undertaken, to foster sustainable development. The strategy also requires that all the sectoral ministries, departments, local authorities, parastatals, and other actors involved should, in the course of their work, show due regard for the conservation and enhancement of the environment in the interest of achieving sustainable development.

The strategy also requires new development projects, public and private, to be accompanied by professionally prepared and approved Environmental Impact Assessments (EIAs). The purpose of the assessments is to enable competent authorities to reach decisions on public and private development initiatives with the benefit of a full understanding of the environmental, economic and social costs which could be incurred both in the short and the long term. This ensures a system wide perspective, a long term view which underscores prevention and a package of ecological practices that reinforces sound socioeconomic development.

Currently, the system of EIA is being legislated and is intended to provide for the concept of Strategic Environmental Assessment and Environmental Health Impact Assessment to focus on the overall aspects of the cross-sectoral/cross-cutting planning issues, and to provide for a more comprehensive and rigorous approach to the identification, prediction and appraisal of the environmental factors which affect human health, as an integral part of the assessment respectively.

Three Institutional measures have been set up to effectively implement the strategy, namely:
(i) An NCS Advisory Board; (ii) A NCS Coordinating Agency; and (iii) A system of environmental liaison that ensures compliance with the NCS.

The National Conservation Strategy Advisory Board and its implementing arm, the National Conservation Strategy Coordinating Agency are currently interfacing with the National Development Plan 8 whose theme is Sustainable Economic Diversification, to ensure that sustainable development in Botswana is maintained through the inclusion of environmental considerations as the foundation for development planning at both the national and local levels.

The draft NDP 8 was subjected to an "Environmental Audit" that identified, described and assessed the potential beneficial and adverse environmental consequences of the plan. The Audit also identified possible measures to enhance the environmental benefits and to reduce or eliminate environmental disadvantages of the proposed actions, and provided information to planners, decision makers, affected communities and other interested parties regarding the full range of environmental consequences of the development planning options.

The results of the Environmental Audit of NDP 7 and particularly 8 were incorporated in the finalization of the sectoral chapters for the NDP 8 process. The cross-cutting issues that have emerged from the "Environmental Audit" of the NDP 8 process are premised on the realization that there is a need to dispel any notion that conservation is a limited, independent activity that is largely concerned with bio-diversity or soils conservation, and that ecological factors are an impediment to development, which in some cases may be overlooked, and in others may be considered simply on a case by case basis and not as a matter of policy. Unfortunately these beliefs are implicit in the way policies are generally formulated.
These have three consequences:
a) The ecological effects of a particular development policy are seldom anticipated and hence the policy is not adjusted in good time to avoid expensive mistakes.
b) Those sectors directly responsible for living resources, notably agriculture, forestry, fisheries and wildlife are often impelled to concentrate on production at the expense of maintenance with the result that otherwise renewable resources are dissipated, thus undermining the resource base for posterity.
c) Because of the previous lack of conservation, the policies of other sectors may be frustrated. The energy sector forecasts of the lifespan of a hydro-electric or coal power station, for example, may not be totally accurate as a result of poor watershed management.

Even when ecological factors are considered, it is seldom at the critical policy making stage when the basic patterns of policy are often fixed. Consideration at the project stage, though often necessary, is no substitute for proper consideration at the policy stage for by the project stage, economic and social requirements will normally have been set so firmly that only minimal or cosmetic adjustments are possible.

Consequently, opportunities for joint planning and realization of the conservation requirements of agriculture, forestry, fisheries, wildlife and so on, may be overlooked. Similarly, the interests of sectors not usually thought of as deriving benefits from living resource conservation may be neglected. Health is an example; conservation can advance the achievements of health objectives not only by ensuring a healthier environment, for example through the maintenance of clean air and water, but also by preserving genetic resources needed for the production of medicine. Policy makers in the health and industry sectors need to be satisfied that the genetic resource base of domestic pharmaceutical manufacturing can be secured.

The foregoing measures are to play a key role during the period of implementation of the NDP 8 and beyond, during which conservation should be integrated into development through the use of instruments that help to implement anticipatory policies, through the establishment of effective coordination mechanisms to ensure that a cross sectoral conservation policy is applied, and through the adoption of national accounting systems to include measures of conservation performance.

Instruments for the implementation of anticipatory environmental policies include: taxes, charges, and financial incentives to encourage choices compatible with the maintenance of a healthy environment; technology assessment, design and product regulation; anticipatory and proactive environmental planning; and procedures for the rational use allocations.

Cross-Sectoral Issues

1. **Decision-Making Structure (please also refer to the fact sheet):** see Status Report

2. **Capacity-Building/Technology Issues:** see Status Report

3. **Major Groups:** No information

4. **Finance:** see Status Report

5. **Regional/International Cooperation:** No information

AGENDA 21 CHAPTER 9: PROTECTION OF THE ATMOSPHERE

NATIONAL PRIORITY:

STATUS REPORT:

The Montreal Protocol and its Amendments

Botswana acceded to both the Vienna Convention for the Protection of the Ozone Layer and its associated Montreal Protocol on the Substances that Deplete the Ozone Layer and became party to both treaties with effect from 2 March 1992.

United Nations Framework Convention on Climate Change

The UNFCCC was ratified on January 20, 1994.

Additional comments relevant to this chapter

Background

The basis for action is the concern about climate change and climate variability, air pollution and ozone depletion which have created new demands for scientific, economic and social information to reduce the remaining uncertainties in these fields. Better understanding and prediction of the various properties of the atmosphere and of the affected ecosystems, as well as health impacts and their interactions with socio-economic factors, are needed.

The basic objective of this programme area is to improve the understanding of processes that influence and are influenced by the earth's atmosphere on a global, regional and local scale, including, inter alia, physical, chemical, geological, biological, oceanic, hydrological, economic and social processes; to build capacity and enhance international cooperation; and to improve understanding of the economic and social consequences of atmospheric changes and of mitigation and response measures addressing such changes. These issues are addressed through the relevant technical institutions, both governmental and non-governmental.

Accomplishments/Atmospheric Monitoring.

The monitoring of the atmospheric air quality to include ozone and other greenhouse gases, for the purpose of public health and environmental protection is undertaken through networks of monitoring stations.

In Botswana, as in many other countries, the issues regarding atmospheric pollution and atmospheric monitoring were not well understood prior to UNCED. Therefore, training of personnel was and continues to be undertaken through Government and donor support to develop capacity to meet the challenges of a changing atmosphere.

The Montreal Protocol on Substances that deplete the ozone layer/Implementing the Montreal Protocol

Botswana, as Party to the Montreal Protocol, has undertaken to phase-out the use of ozone depleting substances. This step has been taken recognizing that substitutes are available to replace the ozone depleting substances (ODSs) currently in use and to meet other needs.

Following a Country Study, carried out in 1994, it was determined that the per capita consumption of the controlled substances under the Montreal Protocol in Botswana is low, about 0.02kg, which classifies Botswana as a developing country operating under Article 5 paragraph 1 of the Protocol.

Parties to the Montreal Protocol whose per capita consumption of the controlled substances is less than 0.3kg are allowed a grace period to delay their compliance with the Protocol for ten years, from the date of entry into force of the protocol for such a party. In the case of Botswana, the use of ODSs is allowed by the Protocol until the year 2002. Arrangements have been made to assist developing country parties operating under this Article 5 with funds and technical support provided by a Multilateral Fund. Botswana qualifies for this support from the Fund to reduce or phase out the use of ODSs in accordance with its obligations.

Activities aimed at complying with the Montreal Protocol

In order to meet Botswana's obligations under the Montreal Protocol and to ensure cost effective compliance, Botswana has:

a) to provide information, annually, on how much of the ozone depleting substances are used in Botswana;

b) to recognize the need to comply with the Protocol and to meet Botswana's obligations in developing a phase out of the use/consumption of ozone depleting substances;

c) to promote awareness and information exchange on the availability of options and alternatives to controlled substances in the following products:

- domestic fridges,
- air conditioners,
- degreasers and solvents or cleaning agents,
- aerosol spray cans,
- fumigants,
- fire extinguishers.

The future plans

The country is planning to hold a number of seminars and workshops and to publish relevant material in the local press and media on the Montreal Protocol and its implementation in Botswana. Some of these activities include:

a) briefings to all respective Councils, other government and no-governmental organizations, educators and health personnel;

b) training of refrigeration technicians;

c) public awareness through art competitions, newspaper publications, radio and other media; and

d) discussion at the Policy Implementation level - the implications of the Protocol for Botswana.

The concerns

The main concerns related to the implementation of the Montreal Protocol in Botswana are the following:

- Technology dumping and procurement of environmentally sound technologies;
- Future cost scenarios and projections;
- Hazards and consequences of a depleted stratospheric ozone layer;
- Capacity building to provide technical training to retrofit fridges with the new technologies and related handling requirements;
- Ability to identify ODSs, whether new or recycled;
- Effective substitutes at reasonable costs;
- Adopt correct destruction technologies.

Status of the implementation of the UNFCCC in Botswana

A number of activities have already been undertaken and some are being developed in connection with initial National Communications as required by Articles 4 and 12 of the Convention.

Botswana has benefited from training of national experts on how to carry out inventories of greenhouse gases and how to develop vulnerability and mitigation assessment programmes. A National Seminar to raise awareness on Global Warming and Climate Change was held in Gaborone in July 1995. Another seminar was held in March 1997.

A number of projects and financial support has been sought to enable Botswana to carry out vulnerability and mitigation studies and to further refine the national inventory. Emphasis will be given to the development of mitigation and adaptation strategies under various climate change scenarios. Botswana benefits from funding, availed through the Global Environmental Facility, to assist in developing the initial National Communications to the Conference of the Parties (COP-2) to the United Nations Framework Convention on climate Change.

A draft report of the inventory of Green-house Gases Emissions and Sinks was discussed and reviewed at a National Seminar, held in March 1997, taking into account the guidelines developed under the Climate Change Convention. The report consists of four technical chapters on Energy, Agriculture, Waste, and Forestry and Land Use sectors. Further reviews will be conducted to ensure Botswana's compliance, taking into consideration the new reporting formats.

The Terms of Reference for a National Climate Committee have been finalized.
A number of briefings aimed at informing authorities on the UNFCCC and how it will impact on the social and economic sectors in Botswana have been prepared and delivered.

Botswana continues to strengthen the networks of atmospheric and climate monitoring stations to ensure that data and information on the climate of Botswana are available for further synthesis and studies on the extent and impact of climate change in Botswana.

In recognition of global warming and other environmental climatic concerns, an energy master plan that emphasizes and draws on non carbon based power supplies has been developed. A rural electrification programme has been developed, which emphasizes, where practicable, the use of solar energy for lighting and other power supplies.

The future plans
Emphasis will be placed on the development of strategies to ensure that the available electrical power supply is used to the maximum. In order to maximize the available power supply, it is intended to develop power efficiency in the areas of power generation, power transmission, and end use. Specific projects to address these areas will be developed and, where appropriate, funding will be sought.

Our understanding of the role of the Kalahari, its vegetation potential as a sink, and their role in reducing emissions of greenhouse gases will have to be improved. Management of veld fires to curbs emissions that result from agricultural management will also be improved.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** see Status Report

3. **Major Groups:** No information

4. **Finance:** see Status Report

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS				
	1980	1990	Latest 199-	
CO_2 emissions (eq. million tons)				
SO_x "				
NO_x "				
CH_4 "				
Consumption of ozone depleting substances (Tons)				
Expenditure on air pollution abatement in US$ equivalents (million)				
Other data				

AGENDA 21 CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES

NATIONAL PRIORITY:

STATUS REPORT:

Major Resource and Environmental Issues

The Botswana's environment is largely semi-arid and therefore offers a limited natural resource base. The resource base has undergone some development pressures and degradation processes which, in some cases, has given rise to concern about the ability of these resources to sustain the needs of future generations. The impacts of these development pressures are manifested through:

a) the depletion of resources;
b) land erosion/degradation;
c) urban and rural pollution; and
d) rangeland degradation.

The Government attaches great importance to the wide range of natural resources and features that exist throughout Botswana, especially in Protected Areas, such as National Parks, Game Reserves, Forest Reserves, and designated Wildlife Management Areas. It is upon these resources that many people depend directly for their livelihoods. Some of these resources, such as the Okavango Delta and the Central Kalahari Game reserve, are valued internationally for their unique features.

There are a number of constraints to rational resource utilization. The first set of constrains is structural; these include rapid population growth and poverty. The second relate to research, particularly the absence of data on resource stocks, how they are used and by whom. Thirdly, inadequate enforcement of legal provisions on the use of natural resources has lead to their unsustainable use.

Implementation status

A. Development of supportive policies

There are three types of land tenure in Botswana. Tribal land covers 71% of the total land area of the country (586 000 km^2). It is allocated to citizens free of charge for all types of uses. State land is owned by the state and comprises 23% of the total area of Botswana. Most of this land is used as National Parks, Forest and Game reserves and no settlements are permitted. A small percentage of this land is allocated for residential purposes, particularly in urban centres. Freehold land comprises only 6% of the total area and it is privately owned. Most of the policies to date have been directed at tribal land.

Prior to independence, Botswana had established traditional ways of allocating and managing tribal land and its resources through chiefs and communities. Some of the important elements of this system were that access to land was assured for all citizens and that the use of land and its resources should ensure availability for future generations. Soon after independence, the authority to allocate tribal land was shifted from chiefs to Tribal Land Boards which were established by an Act of Parliament, but the management of the resources remains the responsibility of the users and their communities.

An Integrated approach to planning and management of land resources started in earnest in 1975 with the implementation of the Tribal Grazing Land Policy (TGLP). Land use planning at that time involved very broad zoning of tribal land for various uses, such as determining where cattle ranches could be established, areas which could be reserved as Wildlife Management Areas (WMAs) and, due to demographic constraints, areas which would remain under communal use. This policy enabled individuals or groups to have exclusive use of land in areas zoned for such use, particularly cattle ranches. The objectives of this policy were that individual tenure would help ensure that land resources (rangeland) were used sustainably. Following the successful implementation of this policy, a number of policies which promote integrated land use planning and natural resources management were promulgated. Some of the recent examples include The National Policy on Agricultural Development (1991), which was largely a follow-up of TGLP, the Tourism Policy, the National Settlement Policy, among others.

B. Strengthening Planning and management systems

To facilitate the implementation of TGLP, appropriate planning and management systems, such as Land use Planning Groups (LUPAGs), later transformed into District Land Use Planning Units (DLUPUs), were established at the district level. At a national level, a Land Development Committee was established to oversee district planning and coordinate national land use planning. The implementation of TGLP has run its full course, but the structures and the land use planning systems have been retained and continue to be useful in the planning and management of land resources.

C. Promoting the application of appropriate tools for planning and management

During the early stages of TGLP, the government realized that land resources data/information on which to base planning and management decisions was deficient. This prompted a number of initiatives particularly by the Ministry of Agriculture, to map soils, conduct an inventory on forest and range resources, and to develop land evaluation methodologies, which can assist in the determination of land suitability.

D. Awareness raising and public participation

The practice in Botswana is that the public is made aware of the implications of land use plans before land is zoned for various uses. This is usually done through public meetings where all developments in a district are discussed. The meetings allow for the participation by all members of the communities including women.

Further, in the land use planning process, public awareness and participation is ensured by, among others, giving land users an opportunity to select preferred land use options from a range of options determined through the evaluation of physical and economic suitability of land resources.

Cross-Sectoral Issues

1. Decision-Making Structure: No information

2. Capacity-Building/Technology Issues: The Ministries of Agriculture and Local Government, Lands and Housing are at the forefront of the implementation process. A lot has been done to train personnel in relevant fields, but it is still necessary to enhance the capacity of existing institutions to enable them to deal with the more complex planning and management of land resources.

The Food and Agriculture Organization (FAO), as the executing agency for the LUPSAD project, has assisted the Government to develop computer based methodologies for determining land suitability. These tools are being applied in land use planning, both at the national and district levels.

3. Major Groups: No information

4. Finance: The Government of Botswana has financed a majority of activities under the programme areas mentioned above. UNDP assisted the government in a project "Land Use Planning for Sustainble Development (LUPSAD)".

5. Regional/International Cooperation: No information

AGENDA 21 CHAPTER 11: COMBATING DEFORESTATION

NATIONAL PRIORITY:

STATUS REPORT:

A. Sustaining the multiple roles and functions of all types of forests, forest lands and woodlands.

Veld and forest products in Botswana play a vital role in the daily lives of most Botswana, particularly in rural areas. Forest resources have potential as a source of employment, household and national income and are important for the protection of the environment. As pressure on such resources increases, over exploitation and degradation also increase. Silvicultural and forest products research and development, covering species trials and assessment of the commercial potential of various tree and veld products, such as grapple plant (devil's claw), morula, morama, truffles, macula leaves, gonometa cocoons, and mopane worms, is needed.

The Beekeeping programme is being promoted as one of the ways through which the contribution of forests to human needs and welfare can be widened. It is also consistent with the Agricultural Development Policy, which seeks to diversify food production and improve opportunities for income generation by the rural poor, particularly women. Beekeeping is promoted, among others, through the integration of this activity into village wood-lots, plantations and orchards, for both honey and beeswax production.

A management plan based on the principles of sustainable and multiple use of forest resources in the gazetted forests in the Chobe district has been developed following a comprehensive inventory of forest resources in those areas. Mapping and inventory of other forested areas and their ecosystem's characteristics will be initiated during the current plan period. Information from this exercise will be used to determine the potential for the supply of timber products and other non consumption uses such as eco-tourism.

B. Enhancing the protection, sustainable management and conservation of all forests, and the greening of degraded areas, through forest rehabilitation, afforestation, reforestation and other rehabilitation means.

One of the strategies proposed under the current National Development Plan, is to develop and implement a National Forest Action Plan. The action plan is expected to enhance the protection, conservation and sustainable use of natural woodlands, and will help to promote, forest rehabilitation, regeneration, afforestation, and reforestation by communities.

Fifty wood-lots covering about 1000 hectares have been established in the country, mainly to produce fire wood for villages and for rehabilitation purposes. In addition, a number of projects which rely on afforestation for rehabilitation such as for sand dune stabilization have been established in many parts of the country. This amount of planted forests can hardly satisfy the increasing demand for fuel-wood and timber building materials, leading to over exploitation of natural woodlands.

The nursery, woodlot and afforestation programme is to be expanded. This will include upgrading the existing twenty government forestry nurseries and establishing additional ones, securing community involvement, including schools, in raising backyard nurseries, establishing village woodlots, setting up research trials and demonstrations to promote forestry and agro-forestry activities, and strengthening the forestry extension programme. A National Tree Seed Centre is to be constructed to augment existing tree seed nurseries to maintain high quality seeds and to be a depository for genetic material.

C. Promoting efficient utilization and assessment to recover the full value of goods and services

The Government of Botswana is committed to improve the conservation and management of Botswana's forestry resources on a sustainable basis through sustainable forest management plans, among others. A major forest land inventory was undertaken in the gazetted forests in the Chobe District in order to assess timber stock volumes, regeneration of timber, and the impacts of wildlife such as elephant damage, and so forth. Data derived from the inventory is used to prepare management plans, harvesting techniques, conservation and research activities and multiple use of forests and woodlands.

The impact of unsustainable commercial timber harvesting practiced in the gazetted forest reserves, and the undervaluation of timber resources became apparent from the results of the inventory of forest resources of gazetted forest reserves. This resulted in an embargo on commercial harvesting, and a number of timber concessions were terminated on expiry in 1993. In addition, a thorough valuation analysis was undertaken which led to the revision of the existing schedule of forest management fees, to promote efficient utilization and assessment and recover the full value of forest goods and services. Following these studies, a Timber Harvesting and Control Unit has been established to monitor and control the use of forest resources.

D. Establishing and/or strengthening capacities for planning, assessment and systematic observations of forests and related programmes.

Despite the efforts made so far, there is still inadequate information on the extent of forest resources, forest ecology, and sustainable use of woodlands and veld products for most parts of the country. However, the Government is actively promoting the establishment of systems for the assessment and systematic observations of forests and forest lands with a view to assessing the impacts of programmes and projects on the quality and extent of forest resources, land available for afforestation, effects of land tenure on the forestry sector, and the untapped potential of forestry as a major source of income, both at the household and national levels.

Under the Forestry Development programme for the period 1997 to 2003, funds have been approved to undertake comprehensive forest inventories in the Nata State Lands and Ngamiland. This will lead to the formulation of sustainable multiple use management plans for the conservation and efficient utilization of forest resources in these areas. A Rangeland Inventory and Monitoring programme has also been initiated with support from the British Overseas Development Administration to develop methodologies for data and information collection and processing, and to ensure accuracy and consistency.

The government's capacity to conduct forest research is limited, but modest forestry research initiatives have been made by non-governmental organizations and the University of Botswana. There is still need for improved coordination of efforts, and strengthening existing institutions in order to improve local capacity to undertake forestry research in Botswana. There are ample opportunities for collaboration with any willing external support to develop forestry research.

Means of implementation see Cross-Sectoral Issues

Cross-Sectoral Issues

1. Decision-Making Structure: Policy and Legislation
The existing Forestry Legislation as well as the monitoring of forest resources utilization and management were identified as deficient. Subsequently, critical issues of the forest policy and legislation have been under comprehensive review to improve the economic as well as the environmental management of Botswana's forest resources. A Draft Policy document followed by a Draft Revised Legislation should be presented to Parliament by December 1997. These policy documents are to incorporate the Government's commitments to the implementation of the ideals of Agenda 21.

2. Capacity-Building/Technology Issues: Capability in the development of land suitability and land-use plans has been established. This assists the development of district-based sustainable management of all land forms including conservation of forests and the greening of degraded areas. In order to facilitate data compilation and management, a Remote Sensing facility and a Geographic Information System have been established.

3. Major Groups: No information

4. Finance: Agenda 21 encourages all Governments to strengthen and improve human resources, technical and professional skills, as well as expertise and capabilities to effectively formulate and implement policies, plans, programmes, research and projects on management of all types of forests and forest lands. The Government of Botswana has demonstrated its commitment to strengthen the forestry sector, including forestry research, through the allocation of development funds and an enabling administrative infrastructure during the current National Development Plan period. Programmes receiving attention will be the implementation of Forest Management Plans for gazetted forest reserves, including re-surveying, demarcation, opening and maintenance of fire-breaks, early burning of potential fire hazard veld under a consolidated fire management plan, and the strengthening of the Timber Harvesting and Forest Utilization and Monitoring Unit.

The Government of Botswana, with support from the European Union under the ACP Lome IV Convention, sponsored a Forestry Protection and Development programme between 1993 and 1997 which concentrated on expanding the institutional capacity of the Ministry of Agriculture to better monitor and protect existing forests and develop their proper conservation and management on a sustainable long-term basis. Some specific activities achieved through the programme implementation can be highlighted as follows:

5. Regional/International Cooperation: The Government of Botswana, in collaboration with Member States of the Southern Africa Development Community (SADC), participates in common based programmes on forestry development to promote and strengthen research, planning, training, capacity building and human resources development to enhance the sustainable utilization of the regional forest resources. A forestry training programme has been established at the Botswana College of Agriculture with support from the Government of Finland, through Finnida, and it has entered into its second phase.

STATISTICAL DATA/INDICATORS				
	1985	1990	Latest 199-	
Forest Area (Km^2)				
Protected forest area				
Roundwood production (solid volume of roundwood without bark in mill m^3)				
Deforestation rate (Km^2/annum)				
Reforestation rate (Km^2/annum)				
Other data				

AGENDA 21 CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

NATIONAL PRIORITY:

STATUS REPORT:

The International Convention to Combat Desertification in Countries Experiencing Drought and/or Desertification Particularly in Africa was ratified on september 11, 1996.

Background

Desertification is defined as land degradation which occurs in dry areas and is associated with climate variations and human activity. When desertification occurs it reduces the biological potential or the carrying capacity of land to unsustainable levels making it to lose natural resilience. This in turn has a negative impact on affected communities and may lead to wide spread poverty, hunger and migration of the population. Recent studies show that 91,000 km2 or 15.5% of Botswana is affected by land degradation/desertification. Therefore, the implementation of provisions of the Convention to Combat Desertification is crucial to Botswana.

Land Degradation and Desertification

Environmental degradation and resource depletion have negative impacts on the rural economy. This requires that a critical analysis of environmental problems be undertaken. The impact of grazing lands and forest resources, caused by the expansion of the livestock and wildlife herds, and exacerbated by the continual occurrence of droughts, are critical rural development planning issues related to both the conservation of the nation's resource base and rural poverty.

The importance that the Botswana government attaches to problems of land degradation and desertification is demonstrated by Botswana's contribution towards the preparations for the International Convention on Desertification through a study that was carried out in the Mid-Boteti area. The specific objectives of the study were:

a) to determine the extent and elements of desertification;
b) to assess local perception about desertification and its consequences; and
c) to involve the local population in assessing the desirability and abatement measures and options for alternative sources of incomes.

The study was consistent with the Draft Resolution 1 of the United Nations Convention on Desertification and chapter 12 of Agenda 21, and it used the UNCED definition for desertification "land degradation in arid, semi-arid and dry-humid areas resulting from various factors including climatic variations and human activities". The analysis of the study also showed the linkages between the forms of desertification.

The impacts of desertification are substantial in both socio-economic and bio-physical terms. People are most concerned with the former as desertification reduces their incomes and depresses their living conditions. Some manage to make up for the losses incurred through formal employment and the sale of livestock or veld products. However, the poor, who depend mostly on dryland cultivation, hunting wildlife and the collection of veld products, have little to fall back on and are the hardest hit. The bio-physical impacts include wind erosion and loss of biodiversity.

There are two interrelated cycles that affect the long term sustainability of the environment. Firstly, over utilization of the resources - as occurs today - adversely affects the productive potential of the environment. This is evidenced by the declining wildlife numbers and reduced availability of veld products. Continued over-exploitation will negatively affect the regenerative capacity of the environment. Secondly, the position of the poor is crucial. Poor people rely most heavily on "free" natural resources in the vicinity of the place of domicile where depletion is usually most serious. The poor are thus disproportionately affected by the decline in productivity of the environment, and suffer most income losses. As a result, they are often compelled to further increase resource pressure.

The conclusion of the Mid-Boteti study suggested that in order to have workable solutions, it is imperative to know the view and secure the active participation of the local population. Whilst most people felt that the primary cause of desertification was of a physical nature, the primary impacts were thought to be of a socio-economic nature, including the loss of income opportunities and the lowering of living standards. Measures aimed at mitigating desertification aim mainly at correction and prevention. It is believed that most of the environment still possess sufficient resilience to recover once the main causes of desertification have been removed.

Implementation status

A. Strengthening the knowledge base and developing information systems

Botswana was one of the affected countries which was chosen to carry out the Intergovernmental Negotiating committee (INCD) case study for the Convention to Combat Desertification and Drought. The study was conducted at Rakops, an area in Botswana which is affected by severe land degradation. This study on strengthening the knowledge base was a useful contribution to the formulation of the United Nations Convention to Combat Desertification and Drought (CCD).

Some work is being initiated on Desert Margins Initiative, an integrated national, regional, and international research programme for developing sustainable natural resources management options to combat land degradation in sub-Saharan Africa. The program is led by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Department of Integrated Agricultural Research serves as the national coordinator. The following is a brief summary of the objectives of this initiative:

- identification and assessment of the physical, chemical, and biological factors contributing to land degradation.
- evaluation of the impact of livestock production and cropping practices on soil erosion, sand deposition, vegetation composition and resilience of dryland ecosystems.
- development of improved nutrient cycling methods by an efficient exploitation of the interactions between organic and inorganic nutrient sources and the relationships between system inputs, soil properties, and crop productivity.
- development of technologies and biological materials for rehabilitation and restoration of degraded lands.
- evaluation of the effects of fallow/crop rotations on moisture status and fertility of soils.
- evaluation of improved cropping systems, and conditions for acceptance and their rapid diffusion.
- promotion of research on the use of indigenous trees in livestock production and sustainable utilization.
- promotion of diversification strategies to enhance biodiversity and ecosystem resilience, e.g. introduction of alternative crops and tree species.
- evaluation of the use of a combination of crop residue and legume tree in the production of fodder.

B. Combating land degradation through, inter alia, soil conservation, afforestation and reforestation activities.

The rural economy of Botswana is based on animal production, especially cattle farming. Rangeland resources, which cover more than sixty percent of the country and are the basis for the cattle industry, are the most affected by degradation albeit to varying degrees, as pressure on these resources varies from place to place. Problems associated with this cause are difficult to remedy. The Tribal Grazing Lands Policy (TGLP) of 1975 introduced ranch development in designated parts of tribal land where farmers or groups of farmers could have exclusive use of range resources. It was expected that this would help improve livestock productivity and more importantly to enhance the management of rangeland within these enclosures. Although theoretically this is possible, when people have been properly coached on the management of their resources and livestock, the implementation of this policy has been marked by varying degrees of success. The Agricultural Development Policy of 1991 extends this concept further into areas which have hitherto been zoned for communal use.

Land degradation is severe, particularly around settlements where depletion of vegetation from livestock grazing is compounded by deforestation mainly to satisfy fuel woods requirements. Efforts are being made in many villages to plant trees for rehabilitation and to augment supply of fuel wood from natural woodlands. Such rehabilitation efforts include sand dune stabilization projects which have become popular in the drier parts of Botswana.

C. Developing and strengthening integrated programmes for poverty eradication and promotion of alternative livelihood systems.

Areas prone to desertification and drought naturally have a weak resource base which is incapable of supporting a decent standard of living. Types of livelihood systems found in these areas rely heavily on this weak resource base. The net effect is that people living in these areas are poorer and this status quo accelerates desertification and poverty.

The INCD study conducted in Botswana clearly identified the need for a comprehensive approach which addresses poverty as a means of dealing with the root cause of desertification. This requires a multi-sectoral effort. Botswana has recently concluded a comprehensive study of poverty. From this study a comprehensive programme will be elaborated to address the poverty problem, particularly in rural areas where people depend heavily on their not so well endowed natural environment. This is expected to involve the strengthening of some existing projects such as the Arable Lands Development Programme, which assists resources-poor farmers with various farming packages/subsidies.

D. Developing comprehensive anti-desertification programmes and integrating them into national development plans and national environmental planning.

Numerous programmes and policies intended to combat desertification in Botswana predate Agenda 21. Most of these are broad and inclusive rural development programmes whose funding has been provided for in past national development plans. Areas which have received attention include livestock development and improvement, grazing and ranch development, improving dryland farming systems, strengthening agricultural extension, establishment of early warning systems, drought monitoring and assessment capability, and forestry development, among others.

E. Developing comprehensive drought preparedness and drought relief schemes including self-help arrangements.

The Botswana government realizes the fact that drought is a recurrent phenomena and must be planned for ahead of its occurrence. In this respect, institutions have been set up in relevant Ministries to deal with various aspects of drought management. Early warning units have been set up in the Ministry of Agriculture and the Department of Meteorological Services. An inter-ministerial drought committee, chaired by the Assistant Minister of Finance and Development Planning, has been established. This committee oversees, among others, drought monitoring and assessment and recommends action that needs to be taken on the basis of assessment reports. Responsibility for managing and distributing drought relief food is vested in the Ministry of Local Government, Lands and Housing. During drought periods all ministries and local authorities are mobilized to assist in relief programmes which include public works programmes designed to create employment during difficult times. Botswana has in the past secured assistance for drought relief, but increasingly the needs are met by mobilizing domestic funds.

F. Encouraging and promoting popular participation and environmental education.

In Botswana consultation is a tradition, hence the Government recognizes that combating desertification can only succeed through the participation of all those who are affected or those who contribute to causing desertification while they eke out their living from limited resources.

Besides early efforts made at sensitizing stakeholders or the public on land degradation and desertification, most recently the Government has supported similar initiatives through various programmes. Through the Kalahari/Namib Project, which is supported by UNEP, the public, farmers, land users, land allocation authorities, traditional leaders and non-governmental organizations were informed about the causes and impacts of desertification and drought. A National Action Programme (NAP), established in the context of the Convention to Combat Desertification and Drought (CCD), has been launched and one of its requirements is to ensure that people participate in anti-desertification programmes. A national awareness campaign is about to be concluded. Communities in affected areas have shown a lot of interest and are prepared to participate in anti-desertification programmes.

Cross-Sectoral Issues

1. **Decision-Making Structure:** see Status Report

2. **Capacity-Building/Technology Issues:** see Status Report

3. **Major Groups:** see Status Report

4. **Finance:** Most of the activities mentioned in the programme areas are supported by funding from domestic sources. A number of organizations, including UN agencies have provided funds to assist the government where such projects have not been adequately provided for in the National Development Plan. The UNDP/UNSO has provided funding for the first phase of the National Action Programme, which was established in the context of the Convention to Combat Desertification. UNEP has also provided funding through SADC (ELMS) for the Kalahari-Namib project. There are numerous other programmes in which other donors play a significant role.

5. **Regional/International Cooperation:** see Finance

STATISTICAL DATA/INDICATORS

	1980	1990	1996	
Land affected by desertification (Km^2)			91,000	
Other data				

REPUBLIC OF BOTSWANA

AGENDA 21 CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

NATIONAL PRIORITY:	
STATUS REPORT: No information	

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

AGENDA 21 CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

NATIONAL PRIORITY:

STATUS REPORT:

A. Agricultural policy review, planning and integrated programming in the light of the multi-functional aspect of agriculture, particularly with regard to food security and sustainable development.

Botswana reviewed its agricultural policy in 1991. The review focussed on agrarian reform, which included replacing the food self sufficiency goal with the concept of food security, promoting diversification of agricultural production and incorporating the element of sustainable food production through, among others, improved management of production resources. In doing so Botswana has exceeded the 1995 target for this programme area.

B. Ensuring people's participation and promoting human resources development for sustainable agriculture.

The Government of Botswana launched the Arable Land Development Programme (ALDEP) in 1980. Even though it pre-dates Agenda 21, it goes along way to address the concerns cited under this programme area. Through this progamme, which has now gone through a number of phases, resource poor farmers are assisted to enable them to participate in agriculture, attain food security at the household level, and earn income from the sale of surplus produce. The assistance package includes, among others, seeds and fencing of fields to protect crops.

There is also a number of complementary programmes, such as strengthening the extension system through training of manpower and extension facilities (offices, transport, among others.).

C. Improving farm production and farming systems through diversification of farm and non-farm employment and infrastructure development.

The 1991 National Policy on Agricultural Development emphasizes diversification of agricultural production to non-traditional products and the adoption of non-traditional production systems. In this respect, the Government encourages farmers to engage in horticulture production, where conditions allow, and in harvesting and processing of veld products, among others. The transition to these new forms of production, however, is slow as should be expected but efforts are being made through targeted subsidies, such as the Financial Assistance Policy (FAP), to encourage people to participate in the transition.

The potential use of crop residues, their nutritional status, and management methods for livestock feed are being studied, together with the identification of locally available feed resources. The development of breeds adapted to local environmental conditions, production systems and farmer preferences is an on-going process, with specific emphasis on efficient input utilization, productivity and competitiveness under marginal conditions. The development of a composite breed with some of the above attributes is in its final stages. In the future breeding work will be expanded to include non-conventional but adapted animals such as ostriches.

D. Land resources planning, information and education for agriculture.

Progress is detailed in the chapter 10 summary.

E. Land conservation and rehabilitation.

A number of projects and programmes, some of which pre-date Agenda 21, have been launched to address concerns cited under this programme area. The survey and mapping of soils at the national level started in 1981 and was completed in 1990. Information derived from this programme has been used to determine land suitability for various uses. It will be further applied in the inventory of degraded lands, through the on-going Soil Conservation project, launched in 1992 and funded by the Government of Botswana, and through the Range Inventory and Monitoring project, launched in 1993 and partially funded by the British Overseas Development Assistance.

Work on tillage systems showed that double ploughing improves infiltration and enhances soil moisture conservation properties, leading to increased total moisture available to the crop. On-going research seeks to identify grazing systems that would encourage forage rehabilitation and good maintenance in terms of quality and quantity. Preliminary results indicate that continuous grazing during the dry period is less destructive to range than grazing during the growing periods. In the future, the establishment and persistence of legume forage under range conditions will be studied.

F. Water for sustainable food production and rural development.
The Government of Botswana established a programme on agricultural water development under the Ministry of Agriculture in 1967. Through this programme agricultural reservoirs are constructed for watering livestock and irrigation of horticultural crops. This programme continues to receive support and will be strengthened in the NDP 8.

G.& H. Conservation and sustainable utilization of plant and animal genetic resources for food and sustainable agriculture.
These programmes are being implemented in line with the Convention on Biological Diversity.

I. Integrated pest management and control in agriculture.
Botswana recognizes that reliance on chemicals for the control of pests is dangerous in the long term and unsustainable. Integrated Pest Management is currently promoted through initiatives by the agricultural research system and others. These initiatives include breeding and selecting crops resistant to major pests and diseases. Capacity has been enhanced in this programme area by the establishment of a Plant Protection division within the Ministry of Agriculture. This division is responsible for the control of migratory and economically important pests, development of procedures for safe handling and disposal of pesticides, and for promoting sustainable pest control technologies.

J. Sustainable plant nutrition to increase food production.
Most of the land farmed in Botswana is marginal. Soil fertility management is therefore extremely important in the maintenance of soil productivity and sustainable use of the land to avoid degradation. Botswana does not produce chemical fertilizers.

Research on crop rotation of cereals and legumes has shown positive benefits in the improvement of soil fertility and increased yields. Current research activities seek to establish a system that will give maximum benefit to the farmer. Inter-cropping experiments have recently began with the aim of improving mixed cropping to a manageable system that will maximize the benefits of both row planting and mixed cropping, a system which is beneficial to the soil. In addition to these experiments, soil fertility management has also become an important part of the implementation of the on-going soil conservation project.

Research programmes on cereals, oilseeds and legumes are evaluating genotypes for drought tolerance and escape. Breeding activities are concentrating on this particular aspect together with associated traits such as early flowering and maturity which are considered to be escape mechanisms for drought. Research is now beginning on indigenous crops, such as watermelons, which are traditionally recognized as drought tolerant. Other exotic crops of dry regions, such as cassava, pigeon peas, and sweet potatoes, are being studied for potential adaptation to Botswana's conditions. In the future, another approach will be to look at the potential of indigenous crops to withstand drought, and to develop those which are most successful.

K. Rural energy transition to enhance productivity.
In the 1980s Botswana launched an Expanded Coal Utilization Programme (ECUP) in order to provide the country with a more sustainable alternative to fuelwood. Unfortunately, Botswana still uses fuelwood extensively, particularly for cooking and heating. This dependence on wood causes deforestation, especially around settlements. Continuation and expansion of the ECUP programme is highly recommended.

The Rural Electrification Programme is on course, although so far the national electricity grid has only reached the main villages.

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** see Status Report

3. **Major Groups:** No information

4. **Finance:** Most of the resources used to implement the programme areas cited above come from domestic sources.

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

	1985	1990	Latest 199_
Agricultural land (Km^2)			
Agricultural land as % of total land area			
Agricultural land per capita			
	1989/90	**1992/93**	**Latest 199_**
Consumption of fertilizers per Km^2 of agricultural land as of 1990			
Other data			

REPUBLIC OF BOTSWANA

AGENDA 21 CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

NATIONAL PRIORITY:

STATUS REPORT: The Convention on Biological Diversity was ratified on October 12, 1995. The Convention on International Trade in Endangered Species of Wild Fauna and Flora was ratified on November 14, 1977.

Additional comments relevant to this chapter: The Government of Botswana endeavours to conserve biodiversity by conserving natural habitats and wildlife in protected areas through minimal interference and adaptive management. Outside protected areas, the Government encourages the sustainable utilization of wildlife resources to boost the national economy for the benefit of the citizens of Botswana. The Wildlife Conservation Policy (1986) describes the utilization of wildlife resources of Botswana on a sustainable basis.

Management-Related Activities

Land-use Planning: Botswana had a land use plan prior to the Rio Declaration. The plan has since been improved to demarcate administrative blocks. Protected areas in Botswana cover 17% of the land area, while an additional 22% of the land is designated as wildlife management areas. The latter areas form buffers between protected area and areas of intensive agricultural activities. Wildlife utilization is the primary form of land use in wildlife management areas, and only compatible activities are permitted in these areas. Therefore, approximately 40% of the national territory is rich in wildlife and it has been possible to maintain it that way. Outside these areas wildlife is still widespread but its abundance and species richness is inversely related to the extent of human development.

Protected Areas and Wildlife Management Areas: Since the Biodiversity Convention was signed, several protected areas have been merged or upgraded to national park status. These include the merging of the Nxai Pan and Makgadikgadi Pan National Park, the Moremi Game Reserve with the Chobe National Park, and the Mabuasehube Game Reserve with the Gemsbok National Park, which is to assume the name of the latter. Protected Areas now account for approximately 18% of Botswana's land area as a result of the merges. Khutse and the Central Kalahari are the only game reserves left. Area management plans exist at least in draft form for all parks except for the Khutse and Central Kalahari Game Reserves. The provision of water for wildlife has up to date been limited to protected areas. There are 25 boreholes in parks and reserves.

Nine of the thirteen proposed wildlife management areas (WNIAs) have been gazetted. Of the gazetted wildlife management areas, those in seven of nine districts have management plans at least in draft form. Communal areas are also included in district management plans.

Decentralization of Management of Wilderness Resources: Since Rio, the Government has adopted a structured approach to decentralize the management of natural resources to the people of Botswana and the private sector. This has been done through activities such as community projects, photographic and hunting safaris in WMAs, and game ranches on freehold land. Although these activities existed prior to the Rio Declaration, they were not clearly designed, mapped, and regulated to promote the conservation of biodiversity. Managers are now charged with monitoring the resource stock in their areas and, in return, benefit from either consumptive or non-consumptive use of wildlife and the wilderness resource. Draft regulations exist for WMAs and for Game Ranching and Farming.

A draft Community Based Natural Resource Management (CBNRM) Policy now exists. The CBNRM development approach fosters the creation of incentives for the sustainable use and conservation of natural resources. This approach realizes that efforts to conserve natural resources can only flourish if poverty is eradicated or kept at a minimum. Communities are encouraged to enter into joint ventures with the private sector to realize optimal economic benefits. There is already one established pilot project. In addition to this project, three other communities will benefit from the commercial use of a wildlife quota this year, while other four will benefit from subsistence use.

The Botswana Government recognizes tourism as the next potential engine of economic growth. Currently tourism is almost entirely based on wildlife and the wilderness resource, and can occur in WMAs and game ranches. Twelve of fourteen WMAs designated for commercial use are operational.

Captive Breeding: Game farming in Botswana has been confined to ostrich and crocodile for commercial purposes. There are 3 crocodile farms, which existed before Rio, but the number of ostrich farms has continued to grow. In view of this rapid growth, an Ostrich Management Policy (1994) was elaborated. Although Botswana has healthy populations of crocodile and ostrich, farms are potential sources for re-introductions into the wild.

The rhinoceros is a threatened species in Botswana. Since 1995 it has been bred in captivity in community and Government facilities.

Falconry is gradually seting into Botswana. There is one established project. Although it is a sport, breeding for restocking into the wild is also undertaken.

Research Effort: In order to manage natural resources wisely and effectively, it is essential to understand the natural ecological systems, the biology of communities and species therein, and the gene pools. Enshrined in the strategic Plan for Wildlife Research in Botswana is a blue print of priority research areas. The broad goals of the research agenda are pursued under three programmes, namely: Monitoring, Applied Research, and Veterinary Services.

The monitoring programme addresses the development of wildlife population surveys, including a baseline inventory of wildlife populations and habitats, and the monitoring of changes including the determination of off-take. There now exists a database of population sizes of various wildlife species. However, with the extensive implementation of utilization schemes, it is envisaged that this programme will be intensified to determine sustained levels of off-take.

Applied research includes studies on wildlife management problems, such as problems related to the elephant population, the provision of water for wildlife, and the control of nuisance predators. It also includes research on the ecology of specific species and communities, and studies of factors affecting wildlife utilization, such as game fencing and trophy animal off-take strategies. Extensive studies on wildlife-habitat relationships are in place, and there is a growing focus on wildlife movement patterns.

The Government has embarked on veterinary research into wildlife disease control, and veterinary restrictions on the movements of wildlife and wildlife products which constrain effective wildlife utilization. In addition to disease surveillance, genetic mapping has commenced.

A National Plant Genetic Resource Committee was established in 1987 to advise the Government on the formulation of guidelines for the collection and conservation of germplasm. One of the achievements of this committee, since Rio, was the establishment of a National Plant Genetic Resource Centre.

Operational plans of the above programmes are currently being implemented in pursuit of a better understanding of our wildlife resources, and to monitor replenishment and consumption to ensure sustainability. In line with the Wildlife Management Policy (1986), management plans for various species have been made to ensure that they are used sustainably. These include species management plans for elephant and ostrich, while policies on falconry, guinea fowl and crocodile are still in draft form. Terms of reference for a flamingo management plan have been drafted.

Conservation Education

The Government carried out an active campaign for educating the public about the need to conserve natural resources and biological diversity, well before the Convention. Conservation education is carried out through the media, the formation of wildlife clubs in schools, and the inclusion of environmental conservation in school curricula. The establishment of educational parks in close proximity to urban centres has been an effective tool for increasing environmental awareness. The parks also serve as centres for the propagation of endangered species.

Law Enforcement

Botswana has continued to train personnel responsible for anti-poaching activities so they can deal with modern, sophisticated poachers. Anti-poaching efforts have intensified through an increase in the number of officers involved, and an increase in equipment to combat illegal offtake. The control of wildlife offtake should improve significantly as soon as the licensing regulations, which are currently in draft form, come into force.

Legislative Provisions

Prior to Rio, Botswana had laws to protect and conserve biodiversity. These include the following: the Wildlife Conservation and National Parks Act (1992); the Herbage Preservation Act (1972); and the Seed Act (1976).
Plans are underway to draft a Plant Genetic Resource Conservation Act, based on the Food Agricultural Organization (FAO) International Code of Conduct for Plant Germplasm Collection and Transfer, and to draft Environmental Impact Assessment legislation.

Constraints

The lack of Environmental Impact Assessment legislation remains a drawback since environmental considerations remain at the discretion of developers. The scattered nature of resource management departments and agencies has lead to a lack of harmony in policies and uncoordinated activities.

Currently, Botswana does not have regulations or legislation which address intellectual property rights.
Management, conservation, and development of biodiversity is hampered by insufficient technology and skilled personnel.

Cross-Sectoral Issues

1. **Decision-Making Structure: Institutional Strengthening:** No information

2. **Capacity-Building/Technology Issues:** The challenge of natural resources conservation in the twenty first century requires a well structured and efficient institution with a clearly defined long term vision. In this regard, the government's department responsible for the management of wildlife resources is currently being structured to enable it to operate efficiently and effectively.

Closely related to the institutional strengthening programme is the Botswana Wildlife Training Institute, whose mission is to equip officers with sufficient knowledge and skills to manage wildlife resources effectively.

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** Before and after the Rio Declaration, regional cooperation on the conservation of biological diversity in Southern Africa was provided through the Southern African Regional Commission for the Conservation and Utilization of the Soil (SARCCUS), and the Southern African Development Cooperation (SADC). Botswana is also a party to the Southern African Convention for Wildlife Management (SACWM), formerly the Southern African Centre for ivory Marketing (SACIM), and has collaborated closely with the International Board for Plant Genetic Resources (IBPGR).

Such cooperation included standardizing and coordinating wildlife surveys in the elephant range of the Southern African Region, through the Elephant Survey and Mapping (ELESMAP) Project which started in 1995.

Recent plans to merge Botswana's Gemsbok National Park with South Africa's Kalahari Gemsbok National Park to form a transfrontier park, are in progress. A draft management plan of the proposed transfrontier park exists. A similar development is proposed along the Limpopo Valley between Botswana, South Africa and Zimbabwe.

STATISTICAL DATA/INDICATORS			
	1992	Latest 199_	
Protected area as % of total land area			
	1990	Latest 199_	
Number of threatened species			
Other data			

AGENDA 21 CHAPTER 16: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY

NATIONAL PRIORITY:	
STATUS REPORT: No information	

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

REPUBLIC OF BOTSWANA

AGENDA 21 CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

NATIONAL PRIORITY:	
STATUS REPORT: **The UN Convention on the Law of the Sea** No information	

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

	1980	1990	Latest 199-	
Catches of marine species (metric tons)				
Population in coastal areas				
Population served by waste water treatment (% of country's total population)				
Discharges of oil into coastal waters (metric tons)				
Releases of phosphate into coastal waters (metric tons)				
Releases of nitrate into coastal waters (metric tons)				
Other data				

REPUBLIC OF BOTSWANA

AGENDA 21 CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES

NATIONAL PRIORITY:

STATUS REPORT:

A. Integrated Water Resources Development and Management

Botswana is generally dry with low, unreliable, and unevenly distributed rainfall both in space and time. The occurrence of long spells of drought are very common. Very often water sources such as dams, sand rivers and hand dug wells dry up. This *status quo* seriously affects productivity in all sectors and leaves rural populations with few or no sources to rely on. This situation calls for prudence in the planning, management, and utilization of fresh water resources.

The Government of Botswana responded to the challenge by formulating the National Water Master Plan (NWMP), the 1st Phase of which was completed in 1992. The main objective of the NWMP was to assess water requirements for all users, based on projected water demands for a period of 30 years, between 1990 and 2020. The NWMP also took into consideration effects of water development on the environment over the period of its implementation.

In its first phase, the NWMP developed several projects including the North South Carrier project which is already being implemented. The North-South Water Carrier project involves the construction of a dam at Letsibogo and a pipeline to transfer water to the southern part of the country at a cost of P1.2 billion. Additional sources of fresh water identified during Phase 1 will be developed to alleviate widespread water shortages all over the country. Another aspect is the establishment of inter-links between adjacent boreholes to supply neighboring villages.

B. Water Resources Assessment

Assessment of water requirements for all users was carried out between 1990 and 1992 as part of the formulation of NWMP Phase I.

C. Protection of Water Sources, Water Quality and Aquatic Ecosystems

With the experience from the Southern Okavango integrated Water Development Project, in 1991, DWA has since made it compulsory for all water development projects to be supported by independent Environmental Impact Assessment (EIA) Studies. A section which monitors pollution of water sources was established under DWA. There is also an Aquatic Weeds Control Unit, stationed in Maun, which samples and analyses water from the area to set-up a baseline water quality information.

D. Drinking Water Supply and Sanitation

As reflected under A, above, the government has a deliberate policy to provide the population with water at affordable tariffs. Findings of the Rural Water Supply (RWS), which was part of the NWMP, among others, indicates that supply is close to the 100% coverage target for urban centres and large villages, but rural dwellers living in small or scattered settlements do not enjoy the benefits of expanded coverage.

E. Water and Sustainable Urban Development

Although overall planning for fresh water development remains the prerogative of the government, the responsibility for water supply for urban and industrial use has been given to a parastatal, the Water Utilities Corporation. This Corporation develops water sources and supplies water for domestic, industrial and other urban uses at charges intended to recover costs of development and operation. In this regard the supply of water for urban consumption is not subsidized and therefore the operation is self sustaining.

F. Water for Sustainable Food Production and Rural Development

(i) Water as a finite resource having economic value with significant social and economic implications

The Ministry of Agriculture has been constructing small dams for agricultural purposes for the past three decades. Some of these structures have the potential to support small scale irrigation projects of up to 15 hectares. Plans are at an advanced stage to utilize these structures by leasing out irrigable plots to qualifying individuals and groups of farmers. Utilization of such facilities will result in the reduction of horticultural imports and generate employment for the rural dwellers in addition to supporting the livestock industry.

Small filtration facilities will be set up at some of the larger projects to supply potable water to beneficiaries. This is part of the Lands Area Water Supply (LAWS) progamme. Furthermore, a programme of rehabilitating and equipping hand-dug wells was also introduced in the mid 1980's. Through this programme the quality of water drawn from open wells has been improved and hand pumps have make it easy for farmers to draw water.

(ii) Local communities participation in all spheres of water management

Community participation is encouraged and monitored from the inception of projects. In fact, the initiation of projects is done by communities themselves with assistance from the Agricultural Extension staff. The Government, through its various establishments, such as Rural Training Centres, assists target groups in building the desirable management capabilities. It is emphasized that communities should appreciate the fact that they own such facilities and not the government.

(iii) Water resources management must be developed within a comprehensive set of policies

The provision of water for agricultural purposes is carried out under the framework of the National Policy on Agriculture, which lays emphasis, among others, on providing adequate and secure livelihoods for those involved in agriculture and increasing food self-sufficiency.

In view of the above policy objectives, agro-based industries such as inland fisheries and smallstock rearing are encouraged, and the government has in place the Financial Assistance Policy to benefit those interested, while simultaneously conserving agricultural land resources.

(iv) Necessity to recognize and support the role of rural populations

It is government policy that projects aimed at benefitting the rural population be initiated by the communities themselves, with the government providing the necessary support.

Water Resource Issues and the Okavango Delta

Water issues are becoming topical in the Southern African sub-continent, particularly in the context of wetland ecosystems, which are among the most biologically productive in the world, but are disappearing globally at an alarming rate. The Okavango Delta wetland is particularly significant as one of the remaining inland wetland ecosystems in the world. While it is unknown how many rare or threatened species of flora and fauna exist in the Delta, the wetland ecosystem as a whole is a critically endangered environment of international significance.

While it is understood that the perpetual change of the Delta's composition is necessary for the maintenance of the biodiversity of the wetland, the critical function of the flora and fauna in this process is only beginning to be studied. The uses of the Delta waters for agricultural, mining, and domestic demands are not necessarily ecologically unsustainable, but water development plans must be carefully appraised and considered. One such project, entailing major excavations of the Boro river and the construction of three large dams and reservoirs, was the Southern Okavango Integrated Water Development Project (SOIWDP). The SOIWDP was designed to augment water from the Boro river to meet the needs of Maun, 15.000 ha. of irrigation, and the Orapa diamond mine.

At the Government of Botswana's invitation, the International Union for the Conservation of Nature and Natural Resources (IUCN) evaluated the proposed project and found it ill-conceived and detrimental to the ecosystem and to the communities of the Delta. The Government of Botswana did accept the recommendations of the review report, and is supporting sustainable alternatives such as the conjunctive use of ground water and surface water. These and other sustainable and economically attractive uses of the Delta, such as eco-tourism, are important in alleviating the pressures to use the resources in potentially non-renewable ways.

The Government of Botswana has therefore demonstrated its commitment to environmental sustainability in the Okavango by, inter alia, its substantial legislation, regulation and policies designed to promote the conservation and sustainable use of its natural resources, and through its National Conservation Strategy.

In September 1994, Angola, Botswana, and Namibia established a Permanent Okavango River Basin Water Commission (OKACOM) to coordinate and collaborate on the sharing of the basin's water resources. The agreement establishing OKACOM specifically advocates the principles of natural resource management, established in Agenda 21, and acknowledges the Helsinki rules on the use of international waters. The riparian states have channelled a request for GEF support in the execution of a basin wide Environmental Assessment (EA), and the formulation and implementation of an Integrated Management Plan (IMP) through OKACOM. The integrated management plan is intended to promote the sustainable development of the Okavango River Basin (ORB) and the protection of the hydro-environmental and ecological integrity, its unique wetlands and delta system.

These challenges require some global partnership founded on a bio-ethic which is energized by communication, education and training, all of which reflect common values that include respect for nature and self responsibility. International cooperation should continue to support and supplement national efforts. In this context, the United Nations system has a key role to play. Other international, regional, and sub-regional organizations are also called upon to contribute to this effort. The broadest possible public participation and active involvement of non-governmental organizations and other groups should also continue to be encouraged.

Cross-Sectoral Issues

1. **Decision-Making Structure:** The Water Act is under review.

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** The Government plays a major role in financing water resource projects for agricultural purposes and rural areas. Urban water is however sold at cost recovery rates.

5. **Regional/International Cooperation:** Botswana shares several water sources with neighboring countries. Cooperation and consultation on the use of such sources is therefore inevitable and has led to the creation of a Joint Permanent Technical Committee of riparian states to oversee the utilization of such resources. Botswana has also established bilateral agreements with South Africa and Namibia, and a trilateral agreement with Angola and Namibia. The main objectives of these agreements are to safeguard the water resources we share with these countries. Under the agreement with Angola and Namibia for the Okavango River Basin, the three countries are already embarking on a project to look into the water resources of the system with more emphasis on environmental effects. The Study will lead into an Integrated Water Resources Management Plan. Funds are being sought from GEF and UNDP.

The SADC members developed and signed a Protocol agreement, in August 1995, on Shared Water Course Systems. The main objective of this Protocol is for SADC members to equitably share the water resources of the region, taking into consideration environment matters. In addition to the Protocol, the 8 riparian countries sharing the Zambezi River Basin are in the process of preparing a Zambezi River Commission agreement.

STATISTICAL DATA/INDICATORS

	1980	1990	Latest 199-	
Fresh water availability (total domestic/external in million m^3)				
Annual withdrawal of freshwater as % of available water				
Other data				

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AGENDA 21 CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS

NATIONAL PRIORITY:	
STATUS REPORT: No information	

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

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AGENDA 21 CHAPTER 20: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS WASTES, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN HAZARDOUS WASTES

NATIONAL PRIORITY:

STATUS REPORT:

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

- **Basel Convention**

No information

Additional comments relevant to this chapter

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

	1980	1990	Latest 199-	
Generation of hazardous waste (t)				
Import of hazardous wastes (t)				
Export of hazardous wastes (t)				
Area of land contaminated by hazardous waste (km^2)				
Expenditure on hazardous waste treatment (US$)				
Other data				

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AGENDA 21 CHAPTER 21: ENVIRONMENTALLY SOUND MANAGEMENT OF SOLID WASTES AND SEWAGE-RELATED ISSUES

NATIONAL PRIORITY:

STATUS REPORT:

Solid wastes are defined in the relevant chapter of Agenda 21 and they include all domestic refuse and non-hazardous wastes, such as commercial and institutional waste, street sweepings and construction debris, human wastes such as night soils, ashes from incinerators, septic tank sludge and sludge from sewage treatment plants.

Basis for Action

In Botswana the focus has been mainly on the prevention and control of water pollution through proper identification and planning of waste disposal sites. During the initial stages, starting in late 1989, the itress was on the hydro-geological aspects, especially on the compilation of groundwater vulnerability maps that indicated existing ground water regimes and their sensitivity towards pollution.

Inadequate waste management, in general, and the uncontrolled disposal of wastes, in particular, were identified as some of the core problems in the sustainable protection of water resources in Botswana. This was exacerbated by increasing waste generation due to rapid economic development, population growth, and changing life styles and consumer habits. Wastes in this case included domestic or household waste, industrial waste, hazardous waste, hospital waste, sewage sludge, demolition waste, and excavation waste.

Without preventive measures and tight controls, high risks of water pollution, both ground water and surface water, are possible. With the then practice of uncontrolled dumping of wastes, the deterioration of drinking water quality was unavoidable. This could have posed a severe threat to public health, the human and the natural environment.

A project was formulated with the following objectives aimed at addressing in a comprehensive manner the question of solid waste:

i) A legal and institutional framework for waste disposal and waste management at the national level was to be prepared.
ii) The vulnerability of water resources should be identified.
iii) The database on water quality, waste generation and current practices of waste management should be improved.
iv) Concepts for the reduction, re-use and recycling of certain specific wastes (cans and metal scrap, plastic wastes, waste oil and wastes from health/medical facilities) would be established.
v) Case studies on the identification, planning, operation and closing of landfill sites at three elected locations were to be carried out.
vi) The qualification of technical staff and planners should be improved.
vii) Public awareness with regard to proper waste handling and disposal as well as protection of water resources in general needed to be promoted.
viii) Adhoc immediate advice on waste management questions at the local level (with specific regard to land-filling) needed to be provided to urban and district councils.

Action Taken

Although this was considered to be a very ambitious project most of the targets were addressed successfully, while others are near finalization. Specifically the following activities have been undertaken:

a) A Waste Management Bill has been drafted and will be sent to Parliament for approval after internal consultations.
b) Draft Technical Guidelines for waste disposal by landfill have been developed, discussed and are being consolidated into a final document.

c) Cartographic work on ground-water vulnerability maps has been completed and the maps have been printed and distributed for planning purposes.

d) Three case studies on medical, metal, and oily wastes have been carried out and their recommendations are being studied for implementation.

e) The University of Botswana has conducted an Environmental Impact Assessment (EIA) course focusing on landfill sites which attracted participants from the Commonwealth and English speaking African countries.

f) An International Waste Management Congress was held in Botswana, in June 1995, under the theme "Waste Management - Prerequisite for Sustainable Development", which attracted some 200 participants, mostly representing local authorities. A second congress is planned for June 1997.

g) A Waste Management Strategy has been drafted and is being considered for approval by the government.

h) A Government Department is being formed to facilitate and coordinate waste management issues countrywide, and to consolidate the achievements stated above. Such department will be involved in three general areas, namely minimizing wastes, maximizing environmentally sound waste refuse and recycling, and promoting environmentally sound waste disposal and treatment.

Cross-Sectoral Issues

1. **Decision-Making Structure:** see Status Report
2. **Capacity-Building/Technology Issues:** No information
3. **Major Groups:** No information
4. **Finance:** No information
5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS				
	1980	1990	Latest 199-	
Generation of industrial and municipal waste (t)				
Waste disposed(Kg/capita)				
Expenditure on waste collection and treatment (US$)				
Waste recycling rates (%)				
Municipal waste disposal (Kg/capita)				
Waste reduction rates per unit of GDP (t/year)				
Other data				

AGENDA 21 CHAPTER 22: SAFE AND ENVIRONMENTALLY SOUND MANAGEMENT OF RADIOACTIVE WASTES

NATIONAL PRIORITY:	
STATUS REPORT: No information	

Cross-Sectoral Issues

1. **Decision-Making Structure:** No information

2. **Capacity-Building/Technology Issues:** No information

3. **Major Groups:** No information

4. **Finance:** No information

5. **Regional/International Cooperation:** No information

STATISTICAL DATA/INDICATORS

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AGENDA 21 CHAPTERS 23-32: MAJOR GROUPS

The role of major groups are also covered under the various chapters of Agenda 21. The following is a summary of main objectives outlined in Agenda 21. Please check the appropriate boxes and describe briefly any important steps or obstacles.

STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS	
Ch. 24: GLOBAL ACTION FOR WOMEN TOWARDS SUSTAINABLE AND EQUITABLE DEVELOPMENT. **The Convention on the Elimination of All Forms of Discrimination Against Women** The ratification of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) has been approved by the Cabinet. It will thus be the Government's commitment to fully implement the Convention. **24.b** Increasing the proportion of women decision makers. No information **24.2.e** assessing, reviewing, revising and implementing curricula and other educational material with a view to promoting dissemination of gender-relevant knowledge. See below **24.2.f and 24.2.c** formulating and implementing policies, guidelines, strategies and plans for achievement of equality in all aspects of society including issuing a strategy by year 2000 to eliminate obstacles to full participation of women in sustainable development. See below **24.2.d** establishing mechanisms by 1995 to assess implementation and impact of development and environment policies and programmes on women. See below **Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):** **The Situation of Women in Botswana** Given the fact that women constitute more than half of the total population of Botswana and that the majority of them live in rural areas, the Government is fully aware that their integration into the development process is not only an issue of social equality, equity and national progress, but is also a good strategy to enhance the country's human resource base, increase output and alleviate poverty. It is apparent that there has been an increase in the number of female headed households, hence government and NGOs efforts to create employment opportunities and improve agricultural inputs and implements, particularly in rural areas. This increase has been the result of male out-migration, leaving females to shoulder responsibilities which were traditionally for males, often leading to a decline in access to and control of productive assets. However, it has been recognized that education is the base for both individual and national development, and recent studies of educational trends in Botswana reflect an improvement in relative opportunities and participation of females in schools and training institutions. The Government of Botswana has made efforts to remove legal obstacles that obstruct the full integration of women in the development process, namely the Citizenship Amendment Act (1995), and the Mines and Quarries Amendment Act (1995). Commendable progress has also been made in the improvement of women's health, as reflected in the Maternal and Child Health and Family Planning Programme (MCH/FP). This programme has been the core strategy for reaching women and children, particularly because they are the most vulnerable groups. **The Policy on Women in Development (WID)** In order to improve the status of women, and provide a basis for continuous review and monitoring of women's issues in development, the government of Botswana has found it imperative to develop a Policy on Women in Development. This Policy was approved by Parliament on the 9th of July, 1996.	

The Policy objectives are outlined as follows:
- To eliminate all forms of inequalities and inequities among women and men;
- To ensure that the needs of women are identified and provided for in development planning;
- To promote women's health, including reproductive health and rights;
- To ensure that economic trade and employment policies promote women's access to gainful employment;
- To link relevant policies, programmes and measures with a view to establish mechanisms to enable women to function more effectively in their multiple roles;
- To create an enabling environment which promotes women's participation and contribution, enhances equal job and career opportunities, and encourages more women to take advantage of existing assistance schemes available to all Botswana;
- To enhance women's productivity at all levels in order to increase their contribution to the development process, and assist them to increase their agricultural output in an effort to alleviate poverty and ensure household food-security, especially among female headed households;
- To ensure that the educational system is designed to create gender awareness;
- To encourage gender responsive data collection, analysis and research, and ensure their use for planning at all levels;
- To strengthen links between the government, non-governmental organizations, and the private sector on women's issues;
- To enhance coordination and implementation capacity, and provide well trained and experienced personnel to address gender issues;
- To sensitize women on their role in the management of the environment and population issues,
- To reduce the incidence of teenage pregnancy, high maternal mortality, and high youth unemployment and minimize their negative impact on the status of women;
- To strengthen the institutional and legal capacity as well as support services to prevent violence and enable victims to cope with stress; and
- To promote the education and training skills of girls and women in a variety of non-traditional career opportunities.

The Educational System
See Chapter 36

Equal Employment Opportunities
In Botswana, both women and men have equal employment opportunities as reflected in some legislative amendments, e.g. Mines and Quarries Act, and Employment Act, which allows full salary pay for female civil servants while on maternity leave. The Consultancy on the Review of Laws that Affect the Status of Women in Botswana will further address other aspects of the law which are not gender sensitive.

Credit Assistance and facilities
The Financial Assistance Policy (FAP) started being implemented in 1983, in order to diversify the economy of Botswana and create employment. FAP is more favourable to female entrepreneurs since they are given a higher percentage on grants than males. The grant is based on the location of the business, and rural women are given the opportunity to benefit more from this programme. In addition, different departments of various ministries also provide some inputs and implements for rural communities. The Ministry of commerce and Industry is looking into how best woman can benefit from modern technologies. Other organizations, such as the Rural Innovative Industries Centre (RIIC), have created environmentally sound technologies and also provide training, research, and resource centres for rural communities, particularly for women.

Reduction of the Heavy Workload of Women and Girl Children
Pre-school education (i.e. nurseries, kindergartens and day care centres) has increased in Botswana. This has been a result of the increased involvement of rural women in income generating activities, which resulted in children being left in the care of pre-school centres as well as with relatives; increased participation of women in the labour market and a growing number of female headed households. It is also due to the growing awareness by parents of the social and educational benefits of pre-school education - (National Development Plan 7, 1991-1997).

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The Government of Botswana has always been concerned about the conservation of the nation's resources when it formulates development policies. It has been realized that development is not sustainable without effective conservation policies. It is in this regard that provision of services are designed, developed and improved in consultation with women. For example, the provision of water and sanitation facilities. Almost every household is within reach of clean water supply as well as sanitation disposal systems.

Strengthening of National Women's Bureaux

The Government of Botswana is in the process of reforming departmental structures including that of the National Women's Machinery. It is hoped that the National Women's Machinery will be upgraded before April, 1997. Women's Non-governmental Organizations and women's groups are financially assisted by the government and other bodies in order to enhance their capacity building for sustainable development.

Consultancy to Review Laws

The Government of Botswana, through the Ministry of Labour and Home Affairs, has found it necessary to undertake a Consultancy on the Review of Laws that Affect the Status of Women in Botswana. The main objective of the Consultancy is to conduct a comprehensive study of all laws affecting the status of women, with a view to expanding their rights and thereby enhancing their status in terms of the law. A strategy to eliminate legal and administrative obstacles to women's full participation in sustainable development and in public life will thus be developed.

NOTE: 1. Please refer to the National Report for the Fourth World Conference on Women, Beijing, China 1995, for more details on other issues.

2. The Women's Affairs Division, in consultation with non governmental organizations, has developed a Draft National Plan of Action (National Plan of Action) based on the Beijing Platform for Action. Further consultations on the Draft National Plan of Action are being carried out throughout the country, more especially with rural communities. An Implementation Strategy will also be developed with the assistance of UNDP through the engagement of a Consultancy.

STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

Ch. 25: CHILDREN AND YOUTH IN SUSTAINABLE DEVELOPMENT.

25.4 establishing processes that promote dialogue between the youth and government at all levels and mechanisms that permit youth access to information and opportunity to present their views on implementing A21.
Name relevant youth fora (3-4 most important): No information

Describe their role in the national process:
25.6 reducing youth unemployment. See below

25.5 ensuring that by year 2000 more than 50% of youth -- gender balanced -- have access to appropriate secondary education or vocational training. The goal set in Agenda 21

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):
Agenda 21 identifies two programme areas for the section on children and youth. These are:
- Advancing the role of youth and actively involving them in the protection of the environment and the promotion of economic and social development.
- Children in sustainable development.

Children are often victims of unsustainable patterns of living. Hence their participation in the relevant decision making processes is imperative. This includes the local, national and international plans to implement Agenda 21. The government of Botswana has taken steps to develop measures to attend to the welfare of its children.

National Programme of Action
Following the signing of the World Summit for Children's Declaration on Child Survival, Protection and Development, by his Excellency the President, in May 1992, the government developed and adopted the National Programme of Action (NPA) which aims at implementing the provisions of the Global Declaration.

The National Programme of Action is an outstanding Children's Policy in this country, which identifies the strategies which will be undertaken to address children' s needs, problems and social hardships. It contains programmes to be developed and carried out for children of all social strata, including those in remote areas.

The NPA highlights the national environmental policy framework and environmental and child survival issues. The programme of action outlines the strategic areas of responsibility and goals that were set for each sector in order to address environmental issues as they affect children and the population at large. In particular, where environmental management is concerned, the NPA outlines strategies to address water resources management and sanitation, and environmental pollution. These environmental concerns are significant in as far as child survival is concerned.

The NPA recognizes that programmes initiated at the national level are put into practice at the district level. This highlights the need to strengthen the districts, since this is where most of the NPA activities will be implemented.

The Convention on the Rights of the Child

It is important to note that His Excellency the President acceded to the Convention on the Rights of the Child in March 1995. This document legally binds Botswana to adhere to its provisions, and the National Programme of Action (NPA) has incorporated its provisions when the implementation strategies were developed.

The principles of the Convention on the Right of the Child are compatible with the rights guaranteed under the Botswana Constitution. Under those principles, the Botswana society places undiminished value on the child. However, disparities exist in sharing society's benefits. The Convention provides guidance for the government in its efforts to protect the child and provide an environment for his/her development. In light of the standards established by the Convention, the NPA has sited some laws affecting children which need to be reviewed. These include the Affiliation Proceedings Act, the Deserted Wives and Children's Protection Act, and the Employment Act.

Environmental Education

In line with the above, the Government of Botswana undertook a process in 1993 to review the educational system. The process takes note of the environmental problems defined in the National Policy on Natural Resources Conservation and Development. The educational review process is meant, among other things, to enhance the environmental component of the school syllabi. In particular, the content should reflect the environmental issues that are of interest to Botswana. It is recognized that for children to appreciate the national and international efforts towards environmental management they ought to be educated on environmental issues, and encouraged to participate on environmental activities and be molded into the befitting custodians of natural resources, in the future.

In order to direct the environmental education activities of Botswana, the United Nations Development Programme (UNDP) financed a project for the Government of Botswana to design a National Environmental Education Strategy which will form the basis for the Environmental Education Action Plan. The Environmental Education Strategy acknowledges that young people represent an important target group and should be regarded as a distinct and influential force in promoting environmental awareness.

The National Conservation Strategy Agency has initiated an activity, as part of the World Environment Day celebrations, for children at all educational levels to participate in essay competitions where they write papers on specific themes about the environment. The aim is to educate and encourage them to participate in environmental conservation activities. This activity is done in cooperation with other relevant institutions, government and non governmental organizations.

STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS	
Ch. 26: RECOGNIZING AND STRENGTHENING THE ROLE OF INDIGENOUS PEOPLE AND THEIR COMMUNITIES. **26.3.a** establishing a process to empower indigenous people and their communities -- through policies and legal instruments: **26.3.b** strengthening arrangements for active participation in national policies **26.3.c** involving indigenous people in resource management strategies and programmes at the national and local level. **Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):** No information	
Ch. 27: STRENGTHENING THE ROLE OF NON-GOVERNMENTAL ORGANIZATIONS: PARTNERS FOR SUSTAINABLE DEVELOPMENT. **27.5** developing mechanisms that allow NGOs to play their partnership role responsibly and effectively. **27.6** reviewing formal procedures and mechanisms to involve NGOs in decision making and implementation. **27.8** promoting and allowing NGOs to participate in the conception, establishment and evaluation of official mechanisms to review Agenda 21 implementation. **27.7** establishing a mutually productive dialogue by 1995 at the national level between NGOs and governments. **Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):** No information	

STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS	
Ch. 28: LOCAL AUTHORITIES' INITIATIVES IN SUPPORT OF AGENDA 21. **28.2.d** encouraging local authorities to implement and monitor programmes that aim to ensure participation of women and youth in local decision making. Government support of local agenda 21 initiatives: **Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):** No information	
Ch. 29: STRENGTHENING THE ROLE OF WORKERS AND THEIR TRADE UNIONS. **29.2** full participation of workers in implementation and evaluation of A21. **29.3 a to e** (By year 2000, (a) promoting ratification of ILO conventions; (b) establishing bipartite and tripartite mechanism on safety, health and sustainable development; (c) increasing number of environmental collective agreements; (d) reducing occupational accidents and injuries; (e) increasing workers' education and training efforts. No information **Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):** No information	

STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

30: STRENGTHENING THE ROLE OF BUSINESS AND INDUSTRY.

30.6 increasing the efficiency of resource use, including reuse, recycling, and reduction of waste per unit of economic output.

See Chapter 2

30.18.a encouraging the concept of stewardship in management and use of natural resources by entrepreneurs.

List any actions taken in this area: No information

30.18.b increasing number of enterprises that subscribe to and implement sustainable development policies.

See Chapter 2

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):

No information

STATUS REPORT ON PARTICIPATION BY MAJOR GROUPS AT THE NATIONAL AND LOCAL LEVELS

Ch. 31: SCIENTIFIC AND TECHNOLOGICAL COMMUNITY.

31.3.b improving exchange of knowledge and concerns between S&T community and the general public.
Scientific community has already established ways in which to address the general public and deal with sustainable development. See below

31.9 developing, improving and promoting international acceptance of codes of practice and guidelines related to science and technology and its role in reconciling environment and development. See below

Brief comments on this chapter not already described in chapter 35 (maximum 100 words) (please, do not exceed this page): Science and Technology Issues

The need to develop science and technology was recognized during the past National Development Plans 6 and 7, despite the impressive economic and social achievements realized in the country over the period. These developments coupled with a growing population, which is increasingly becoming urbanized, modernized and better educated, has resulted in changes in the pattern of demand for goods and services. The demand for industrial products and modern goods and services is expected to accelerate in the coming years. Moreover, the demand for skilled human resources, particularly professionals in the areas of science, medicine, and engineering is expected to rise significantly. The ability for Botswana to compete in the provision of high quality products and services depends heavily on investment in science and technology, including research.

Botswana lacks a science and technology environment which is conducive to technology transfer. Such a situation, combined with the lack of adequate human resources, is likely to lead to a failure to absorb imported technology. Training of local professionals to the maximum is important to ensure transference of technologies that are conducive to local conditions. It is, therefore, against the background of these challenges and urgent needs that the Government decided to formulate a comprehensive Science and Technology Policy for Botswana with policy statements and strategies involving basic and applied science, and ways through which knowledge can be shared and used in the community. The Policy will be brought for consideration and adoption by Parliament in July 1997.

The core objectives of the Policy are:

i) to develop, improve and raise the national productive capacity and competitiveness;
ii) to promote and develop traditional and new and innovative technologies; and
iii) to improve and develop scientific and technological awareness, knowledge, and culture in Botswana.

To realize these core objectives, the Policy includes a set of strategies to help build science and technology capacities in the economic and service sectors with an emphasis on rural areas. In the process, the Policy outlines a set of objectives and strategies to stimulate, organize, and use scientific and technological potential in order to achieve national economic, social, and cultural development goals. The science and technology strategies will have to be converted into projects and programmes in order to effect implementation through legislative and executive provisions.

Implementation of Science and Technology

The Government has established the Botswana Technology Centre as a centre for the advancement of science and technology. This Centre will serve as a focal point for the development and dissemination of science and technology. Its objectives are to identify, assess, adapt, evaluate, and monitor technology in support of national development, and to assist in the solution of technological problems. In spite of this effort, science and technology activities in Botswana remain fragmented and scattered over several sectors and, as such, they need coordination, streamlining and proper targeting.

In terms of funding, in addition to existing allocations to sectors implementing science and technology programmes, more resources will be required to finance expected activities in areas of research institutions and research in general. Such funding will include contributions from the private sector, the government, NGOs and the donor community.

Future Challenges

An analysis of the current situation indicates the existence of impediments and constraints to the development of science and technology, namely:

i) The lack of skilled and experienced manpower;
ii) Poor scientific infrastructure and equipment; and
iii) Uncoordinated research and general lack of a science and technology culture.

Ch. 32: STRENGTHENING THE ROLE OF FARMERS.
32.5.c promoting and encouraging sustainable farming practices and technologies.

32.5.e developing a policy framework that provides incentives and motivation among farmers for sustainable and efficient farming practices.

32.5.f enhancing participation of organizations of farmers in design and implementation of sustainable development policies.

Brief comments on this chapter (maximum 100 words) (please, do not exceed this page):
Eighty percent of Botswana's population lives in rural areas where its main subsistence and sustenance is based on agricultural production and land based resource use. The major farming activities involve cattle farming under communal grazing and arable farming, which is practiced on less than five percent of the land surface area.

To strengthen the role of farming communities, the government has established programmes which range from rural development, agricultural initiatives, training, research and other socio-economic schemes. The following procedures have been put in place to support farmers initiatives:

Farmers Committees: Farmers are encouraged to form committees and other village based organizations, such as cooperative societies, drift fencing groups, and syndicates in order to delegate power to producers on matters relating to natural resources management, credit facilities and management of their production systems.

Farmers Packages: Farmers are supported through an extensive extension system which is provided by Agricultural extension service in the major agricultural regions. The information which is given to farmers entails sound farming practices and technologies on crop and animal husbandry, maintenance of land quality, natural resources conservation measures, efficient use of chemicals for pest management, and use of low-input equipment and energy. Targeted subsidies and Incentives are provided to farmers for different production systems. As indicated above, the government has reviewed the agricultural performance in 1989, and has outlined the constraints that may affect farmers out-put (these include farm-prices, technology transfers, trade, land tenure, the role of women in agriculture, and resources constraints). Agricultural development policies and other programmes on forestry, land use planning and rural development are addressing the above mentioned issues. The role of farmers is supported through consultations, constant visits and out-reach programmes, such as farmers field days and other initiatives.

During the implementation of the NDP8, the ministry aims to incorporate into its extension network related projects, programmes, and the findings of major studies which have been undertaken, including:
The Development of the Extension Message and Relationships with the Department of Research, and the proceedings of the First National Conference on Agricultural Extension. These documents outline the procedures and programmes which are needed for the effective and efficient running of the extension service.

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AGENDA 21 CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

Financial resources and mechanisms are also covered under each sectoral chapter of Agenda 21 where relevant. This summary highlights broader national financial policies, domestic and external (including ODA)

NATIONAL PRIORITY:	
STATUS REPORT: No information **CHANGES IN NATIONAL BUDGET TO ADDRESS SUSTAINABLE DEVELOPMENT:** No information **NEW ECONOMIC INSTRUMENTS:** No information **ELIMINATION OF ENVIRONMENTALLY UNFRIENDLY SUBSIDIES:** No information	

Best copy available

ODA policy issues
No information

STATISTICAL DATA/INDICATORS						
	1992	1993	1994	1995	1996	
ODA funding provided or received (Total US$million)						
	Average for 92-93		Average for 94-96			
Net flow of external capital from all sources as % of GDP						
Other data						

AGENDA 21 CHAPTER 34: TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING

Transfer of environmentally sound technology, cooperation and capacity-building is also covered under each sectoral chapter of Agenda 21 where relevant. This summary highlights broader national policies and actions relating to chapter 34.

NATIONAL PRIORITY:

STATUS REPORT ON LINKS BETWEEN NATIONAL, REGIONAL AND INTERNATIONAL INFORMATION NETWORKS/SYSTEMS:

No information

MEANS OF IMPLEMENTATION:

• **Describe any work being undertaken at the national or local level regarding efforts to promote clean production processes and/or the concepts of eco-efficiency. These processes may include training, preferential financial arrangements, information dissemination and changes in legal or regulatory frameworks.**

No information

• **Provide information on the adoption of environmental management systems. National reaction to environmental management system standards such as the ISO 14000 Series and others. Please note efforts made at the national level to promote their adoption and the creation of certification infrastructure in order to facilitate access to these standards to local industry.**

No information

• **List and describe programs or work under way to facilitate the transfer of ESTs to small and medium sized enterprises. Please note efforts to facilitate access to financial resources and other transfer strategies.**

AGENDA 21 CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

NATIONAL PRIORITY:	
STATUS REPORT ON NATIONAL SCIENTIFIC KNOWLEDGE, RESEARCH NEEDS AND PRIORITIES: see Chapter 31	
STEPS TAKEN TO ENHANCE SCIENTIFIC UNDERSTANDING, IMPROVE LONG TERM SCIENTIFIC ASSESSMENT, BUILDING OF CAPACITY AND CAPABILITY:	

STATISTICAL DATA/INDICATORS			
		Year	
Number of scientists, engineers and technicians engaged in research and experimental development	#	19--	
Total expenditure for research and experimental development (US$eq.)	$	19--	
Other data			

AGENDA 21 CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

NATIONAL PRIORITY:

STATUS REPORT:

The Education System

Basic education in Botswana is free. The Ministry of Education has currently completed a commission to review the whole education system. In addition, the Department of Curriculum has reviewed the Primary School Curriculum to be gender sensitive. Information, education and communication activities are being carried out by different departments and Non-governmental Organizations on gender issues. These activities target both rural and urban women, men and youth. Such activities further strengthen programmes that aim to eliminate persistent negative images, stereotypes, attitudes and prejudices against women and the girl-child.

The Vocational Education and Training Department is also reviewing its programmes with a view of increasing the enrolment of females in educational institutions. This will therefore increase educational and training opportunities for women and girls in sciences and technology, particularly at the post-secondary level. Botswana has a literacy programme which has been successful, with recipients mostly being females.

Environmental Education

In line with the above, the government of Botswana undertook a process in 1993 to review the education system. The process takes note of the environmental problems defined in the National Policy on Natural Resources Conservation and Development. The educational review process among other things, is meant to enhance the environmental component of the school syllabi. In particular, the content should reflect the environmental issues that are of interest to Botswana. It is recognized that for children to appreciate the national and international efforts towards environmental management they ought to be educated on the same, made to participate in environmental activities and be molded into the befitting custodians of natural resources in the future.

In order to direct the environmental education activities of Botswana the United Nations Development Programme (UNDP) financed a project for the Government of Botswana to design a National Environmental Education Strategy which will form a basis for the Environmental Education Action Plan. The Environmental Education Strategy acknowledges that young people represent an important target group and should be regarded as a distinct and influential force in promoting environmental awareness.

The National Conservation Strategy Agency has initiated an activity as part of the World Environment Day celebrations for children at all educational levels to participate in essay competitions where they write papers on specific themes about the environment. This is done to educate and encourage them to participate in environmental conservation activities. This activity is done in cooperation with other relevant institutions, government and nongovernmental organizations.

ROLE OF MAJOR GROUPS: see above

FINANCING AND COST EVALUATION OF THE LABOUR ACTIVITIES: No information

STATISTICAL DATA/INDICATORS				
	1980	1990	Latest 199-	
Adult literacy rate (%) Male				
Adult literacy rate (%) Female				
% of primary school children reaching grade 5 (1986-97)				
Mean number of years of schooling				
% of GNP spent on education				
Females per 100 males in secondary school				
Women per 100 men in the labour force				
Other data				

AGENDA 21 CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR CAPACITY-BUILDING IN DEVELOPING COUNTRIES

National capacity building is also covered under sectoral chapters.
Donors: You may wish to describe here how Agenda 21 has influenced your ODA policies in this area.
Developing countries: You may wish to describe any new national mechanisms for capacity building - and any changes in technical cooperation.

NATIONAL PRIORITY:	
STATUS REPORT ON NATIONAL ENDOGENOUS CAPACITY BUILDING: No information	

AGENDA 21 CHAPTER 38: INTERNATIONAL INSTITUTIONAL ARRANGEMENTS

Ch. 38: Brief summary of any particular UN System response affecting this country/state:

No information

AGENDA 21 CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

Ch. 39: International Legal Instruments are covered under the relevant sectoral chapters. This is a listing of major agreements/conventions (not already covered) entered into and relevant to Agenda 21:

No information

AGENDA 21 CHAPTER 40: INFORMATION FOR DECISION-MAKING

This chapter is also covered under sectoral and other chapters of this profile. The matrix below gives an overview of how national authorities rate the available information for decision making.

Rating of available data and information suitable for decision-making

Agenda 21 Chapters		Very good	Good	Some good data but many gaps	Poor	Remarks
2.	International cooperation and trade					
3.	Combating poverty					
4.	Changing consumption patterns					
5.	Demographic dynamics and sustainability					
6.	Human health					
7.	Human settlements					
8.	Integrating E & D in decision-making					
9.	Protection of the atmosphere					
10.	Integrated planning and management of land resources					
11.	Combating deforestation					
12.	Combating desertification and drought					
13.	Sustainable mountain development					
14.	Sustainable agriculture and rural development					
15.	Conservation of biological diversity					
16.	Biotechnology					
17.	Oceans, seas, coastal areas and their living resources					
18.	Freshwater resources					
19.	Toxic chemicals					
20.	Hazardous wastes					
21.	Solid wastes					
22.	Radioactive wastes					
24.	Women in sustainable development					
25.	Children and youth					
26.	Indigenous people					
27.	Non-governmental organizations					
28.	Local authorities					
29.	Workers and trade unions					
30.	Business and industry					
31.	Scientific and technological community					
32.	Farmers					
33.	Financial resources and mechanisms					
34.	Technology, cooperation and capacity-building					
35.	Science for sustainable development					
36.	Education, public awareness and training					
37.	International cooperation for capacity-building					
38.	International institutional arrangements					
39.	International legal instruments					
40.	Information for decision-making					

Additional Comments	

STATISTICAL DATA/INDICATORS				
	1980	1993	Latest 199-	
Number of telephones in use per 100 inhabitants				
Other data				